Nova Scotia
Department of
Advanced Education
and Job Training

# Career Options

1992 edition

## An Occupational Handbook for Nova Scotians

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Nova Scotia Department of
Advanced Education and Job Training

Planning and Evaluation Division

## ADDENDUM

Please note the Department of Advanced Education and Job Training merged with the former Department of Education in March of 1992. The Minister of the new Nova Scotia Department of Education is the Honourable Guy J. Le Blanc.

The information contained in this handbook was accurate to the best of the authors' knowledge at the time of printing. Salaries and educational programs, in particular, are subject to change and it is recommended that the reader verify the information before making any career decisions.

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Planning and Evaluation Division

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*Career Options 1992*

Nova Scotia

**Department of**
**Advanced Education**
**and Job Training**

Office of the Minister

5th Floor, Founders Square
1701 Hollis Street
Halifax, Nova Scotia
B3J 3M8

Our file no:

Dear Reader:

I am very pleased to present you with the third edition of *Career Options: An Occupational Handbook for Nova Scotians. Career Options 1992* provides basic labour market information on the major occupational groups in Nova Scotia together with brief job descriptions and training information related to those occupational groups.

Career decision-making is certainly a challenge, but with the necessary planning, it can be a very exciting and rewarding experience. Whether you are a student, a counsellor, a career changer, or someone interested in re-entering the workforce, it is my hope that *Career Options* will give you a better understanding of the choices in the Nova Scotia job market.

As you consider the type of occupation that best suits your interests, needs, abilities and ambitions, I am confident that you will find *Career Options* to be a valuable tool in this endeavour.

Best wishes for success,

Ronald C. Giffin, Q.C.
Minister of Advanced Education
and Job Training

# What Career Options can do for you

If you could travel to any country in the world, what destination would you choose?

How would you get there? What kind of information would you need before making a decision?

Designing a career is something like planning a trip. Just as there are thousands of places in the world to which you could travel, there are just as many occupations from which to choose. In both cases, there are different directions you could follow, each leading to a different destination. But how do you choose?

It's not easy to narrow down the choices available to you. In the case of career planning, it's important to consider your likes and dislikes, remembering that each occupation has its own unique combination of challenges and opportunities. Think about your interests, abilities and ambitions. What occupations fit your likes and dislikes best? The answers to these questions will help you to narrow down the thousands of choices to a shorter number of occupations that best suit you.

Like the countries of the world, you probably don't know a great deal about each of your options. Exploring information on the many occupations is a key step in developing your career plan. This is where *Career Options* can help.

This handbook has been prepared for persons looking for information on the many occupations in Nova Scotia. Whether you are a student starting to explore career opportunities, a counsellor involved in helping others, or someone interested in changing occupations or re-entering the workforce, *Career Options* will give you a basic overview of the choices in the Nova Scotia job market.

*Career Options* is intended to be the starting point of your research. You are encouraged to consult other sources for more information. Look to your school or career guidance counsellor for assistance. Talk to family and friends, and people working in occupations that interest you. School and public libraries can also be helpful for researching occupations. Get all of the information you need to make an informed decision because it will be one of the most important life decisions you will ever make.

*Career Options* includes over 160 occupational groups that are available in Nova Scotia. There are actually thousands of different occupations, but they have been grouped according to similarities in the type of work, education and training requirements, and physical demands.

*Career Options* answers many important questions about each occupation. What are its main duties? Is the work full-time, part-time or seasonal? What kind of training is needed? Where is the training offered in Nova Scotia? How long should I expect to be in school? What kinds of skills are required to do this type of work? In what industries are people in this occupation most often employed?

There is also information to answer questions about the job market. How many people currently work in this occupation? Are there many workers who are unemployed? How many job openings are expected in this occupation in Nova Scotia? What kind of earnings can an individual expect?

Another valuable section in *Career Options* is the sources for further information. Where possible, the address of an association, government agency, union or other organization that can provide useful information on the occupational group has been provided. You are encouraged to consult these sources if you want to find out more about the occupation. However, please be aware that the listing of an organization is for information purposes only. The handbook is not intended for endorsement of any listed organizations.

The Guide on page ii provides an explanation of the information found in the occupational profiles in this handbook.

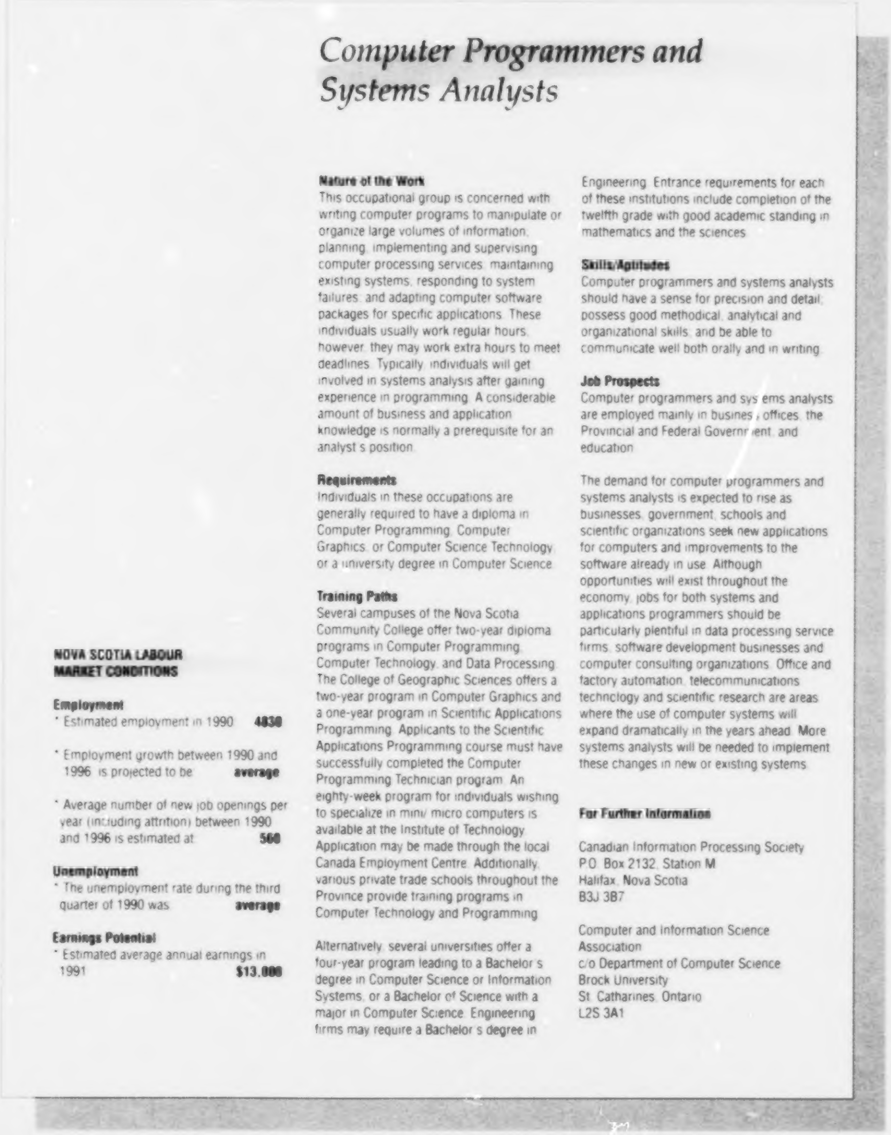
Check the table of contents or the alphabetical index at the end of the handbook to locate specific occupations that interest you. You will no doubt discover a few that you have not previously considered.

It is important that the above factors be considered when making career decisions so you will have realistic expectations of what the job you are interested in will actually be like. Don't let circumstances and luck decide for you. It's your future — make the best choices for you.

Any suggestions or comments on *Career Options* are appreciated and will be seriously considered when making improvements in future editions. Please complete the questionnaire on page vii and send it to:

*Career Options*
*Planning and Evaluation Division*
*Nova Scotia Department of Advanced Education and Job Training*
*P.O. Box 2086, Station M*
*Halifax, Nova Scotia*
*B3J 3B7*
*902-424-5242 (telephone)*
*902-424-0511 (fax)*

# *Let's look at an example:*



## *Computer Programmers and Systems Analysts*

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

| | |
|---|---|
| • Estimated employment in 1990 | **4830** |
| • Employment growth between 1990 and 1996 is projected to be | **average** |
| • Average number of new job openings per year (including attrition) between 1990 and 1996 is estimated at | **560** |

**Unemployment**

| | |
|---|---|
| • The unemployment rate during the third quarter of 1990 was | **average** |

**Earnings Potential**

| | |
|---|---|
| • Estimated average annual earnings in 1991 | **$13,000** |

**Nature of the Work**

This occupational group is concerned with writing computer programs to manipulate or organize large volumes of information; planning, implementing and supervising computer processing services; maintaining existing systems; responding to system failures; and adapting computer software packages for specific applications. These individuals usually work regular hours; however, they may work extra hours to meet deadlines. Typically, individuals will get involved in systems analysis after gaining experience in programming. A considerable amount of business and application knowledge is normally a prerequisite for an analyst's position.

**Requirements**

Individuals in these occupations are generally required to have a diploma in Computer Programming, Computer Graphics, or Computer Science Technology, or a university degree in Computer Science.

**Training Paths**

Several campuses of the Nova Scotia Community College offer two-year diploma programs in Computer Programming, Computer Technology, and Data Processing. The College of Geographic Sciences offers a two-year program in Computer Graphics and a one-year program in Scientific Applications Programming. Applicants to the Scientific Applications Programming course must have successfully completed the Computer Programming Technician program. An eighty-week program for individuals wishing to specialize in mini/ micro computers is available at the Institute of Technology. Application may be made through the local Canada Employment Centre. Additionally, various private trade schools throughout the Province provide training programs in Computer Technology and Programming.

Alternatively, several universities offer a four-year program leading to a Bachelor's degree in Computer Science or Information Systems, or a Bachelor of Science with a major in Computer Science. Engineering firms may require a Bachelor's degree in Engineering. Entrance requirements for each of these institutions include completion of the twelfth grade with good academic standing in mathematics and the sciences.

**Skills/Aptitudes**

Computer programmers and systems analysts should have a sense for precision and detail; possess good methodical, analytical and organizational skills; and be able to communicate well both orally and in writing.

**Job Prospects**

Computer programmers and systems analysts are employed mainly in business offices, the Provincial and Federal Government, and education.

The demand for computer programmers and systems analysts is expected to rise as businesses, government, schools and scientific organizations seek new applications for computers and improvements to the software already in use. Although opportunities will exist throughout the economy, jobs for both systems and applications programmers should be particularly plentiful in data processing service firms, software development businesses and computer consulting organizations. Office and factory automation, telecommunications technology and scientific research are areas where the use of computer systems will expand dramatically in the years ahead. More systems analysts will be needed to implement these changes in new or existing systems.

**For Further Information**

Canadian Information Processing Society
P.O. Box 2132, Station M
Halifax, Nova Scotia
B3J 3B7

Computer and Information Science Association
c/o Department of Computer Science
Brock University
St. Catharines, Ontario
L2S 3A1

**Occupational Title**

**Typical Occupations**

✔ a listing of the most common occupations
✔ may not include all occupations defined in this group

**Nature of the Work** includes a description of:

✔ general duties
✔ working conditions
✔ physical requirements
✔ work environment

**Requirements**

✔ education/training required
✔ certification or other requirements

**Training Paths**

✔ normal ways to get the education/training required (may involve formal education, on-the-job training, work experience)
✔ where to get the training, minimum requirements for admission, length of training

**Skills/Aptitudes** includes a description of the skills and aptitudes related to the group

✔ a skill is a learned ability to do something well
✔ an aptitude is a natural ability that you have when you are born

**Employment**

✔ how many people are working in this job

**Employment Growth**

✔ may be average, below average or above average in comparison to all other occupations

**Average number of new job openings**

✔ job openings are due to growth (new companies opening and existing companies expanding) and attrition (existing workers retiring, moving out of the province or moving to another occupation)

**Unemployment Rate**

✔ based on the number of people in the occupation who received Unemployment Insurance benefits
✔ may be average, above average, significantly above average, below average, or significantly below average in comparison to all other occupations

**Estimated Annual Average Earnings in 1991:**

✔ average earnings of all full-time, full-year workers in this occupation
✔ starting wages are generally significantly below this figure

**Job Prospects** may include information such as:

✔ industries in which workers in this occupation are usually employed
✔ seasonal or economic factors that may affect this occupation
✔ further information on earnings

**For Further Information Contact**

✔ these individuals may be contacted if you have more questions about the occupation

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# *Questionnaire*

We would really like to hear from our readers. Please take a few minutes and jot down any ideas you might have for changes or improvements. Or, just tell us about how the book was useful to you. Your comments and suggestions, whether general or specific are greatly appreciated. Your response may be mailed to the Nova Scotia Department of Advanced Education and Job Training at the address indicated below. Thank you for your assistance.

Please send your completed questionnaire to:

Nova Scotia Department of
Advanced Education and Job Training
Planning and Evaluation Division
Attn. Shannon Polley
P.O. Box 2086, Station M
Halifax, N.S. B3J 3B7

or contact Ms. Polley at
Tel: (902) 424-5242
Fax: (902) 424-0511

Tell us about yourself:
*I am a*

- ☐ *student, grade*____________________
- ☐ *career changer*
- ☐ *teacher, grade* ____________________
- ☐ *counsellor*
- ☐ *other (please specify)*

____________________________________________________________

1. Was the user's guide useful and easy to understand? ☐ yes ☐ no

2. Were the written descriptions of the occupational profiles easy to understand? ☐ yes ☐ no

3. Was the labour market information in the occupational profiles useful? ☐ yes ☐ no

4. Is there any additional information that you would like to see in Career Options?

____________________________________________________________
____________________________________________________________
____________________________________________________________

5. Were there any occupations which you could not find in the index?

____________________________________________________________
____________________________________________________________
____________________________________________________________

6. Tell us what you thought of the format of the occupational descriptions

____________________________________________________________
____________________________________________________________
____________________________________________________________

7. In your opinion, was the information contained in Career Options useful? ☐ yes ☐ no

8. Is there additional information or changes that could be made to the handbook that would make it more helpful in the task of choosing or changing a career?

____________________________________________________________
____________________________________________________________
____________________________________________________________
____________________________________________________________

General Comments

____________________________________________________________
____________________________________________________________
____________________________________________________________
____________________________________________________________
____________________________________________________________

# Acknowledgements

*Career Options: An Occupational Handbook for Nova Scotia* was developed and produced by the Planning and Evaluation Division of the Nova Scotia Department of Advanced Education and Job Training under the general guidance and direction of Wayne Doggett, Director. Shannon Polley, Research and Statistical Officer, was primarily responsible for compiling the occupational material with Bruce Roberts, Economist, who provided support in the compilation of the labour market information. The project was carried out through the planning and direction of Maryann Ricketts, Senior Economist.

Numerous individuals and organizations contributed to the preparation of *Career Options* and their help has been greatly appreciated.

A special note of thanks is extended to the many employers, business associations, professional associations and career counsellors who provided useful comments on earlier drafts of the document. Some of these groups have also allowed their name and address be included as a source of further information for particular occupations. It should be noted that the inclusion of an organization's name does not necessarily imply its endorsement of the information contained in the handbook, nor does it imply the Department's endorsement of the organization.

The Planning and Evaluation Division greatly appreciates the assistance provided by the Industrial Training Services Division of the Department of Advanced Education and Job Training in preparing many of the original occupational descriptions used in the 1992 edition of *Career Options*. The Career Services Division of the Department also assisted in providing useful information and comments on several of the initial drafts of the descriptions, as well as valuable insights into the overall presentation of the handbook.

Thanks is also extended to the staff of Economic Services, Employment and Immigration Canada, at the Nova Scotia Regional Office, for providing comments pertaining to labour market data and job prospects included in *Career Options*. As well, several other Provincial and Federal Government departments provided comments on drafts of occupational descriptions and their assistance is gratefully acknowledged.

# Occupational Descriptions and Labour Market Statistics

# *Service Occupations, Personal*

# Child Care Occupations

**Typical Occupations**

baby sitter
child care worker
early childhood educator
nursery attendant

**Nature of the Work**

This occupational group is concerned with caring for children in private homes, private or government institutions or recreational establishments during the absence of parents or guardians, as well as with assisting parents to care for children. Those caring for infants and toddlers follow a routine of basic care, such as feeding, bathing, diapering, comforting, and playing with children. Those working with older pre-school children take care of their basic needs and also plan and carry out programs which stimulate their physical, emotional, intellectual and social growth. Child care centres are open year round and often for twelve hours a day. Full-time personnel usually have eight-hour shifts with part-time personnel supplementing. Child care workers spend much of their time standing, walking, bending, stooping and lifting.

**Requirements**

Although there are no formal educational requirements to work in these occupations, employers are increasingly requesting proper training and/or experience. In order for a child care facility to be licensed, the director and at least two-thirds of the staff members must have the necessary certification and/or experience as regulated by the Nova Scotia Department of Community Services.

**Training Paths**

There are five programs offered in Nova Scotia which grant certification. The St. Joseph's ECE (Early Childhood Educators) Training Program in Halifax offers a ten-month diploma program in Early Childhood Education. The Froebel Institute for Early Childhood Education in Truro offers a two-year diploma program (full-time) in this area at the Nova Scotia Teachers College and a four-year extension (part-time) diploma program at the Froebel Institute and at nineteen different locations throughout Nova Scotia. As well, Kingstec and the Cumberland Campus of the Nova Scotia Community College offer a one-year certificate program in Early Childhood Studies. Mount Saint Vincent University offers a four-year Bachelor of Child Study program with four distinct areas of specialization. All of the above require successful completion of the twelfth grade for entrance.

**Skills and Aptitudes**

These individuals should enjoy working with children. They should be patient, imaginative and resourceful. As well, they must be able to communicate ideas in a clear and concise, yet pleasant, manner.

**Job Prospects**

Child care workers are primarily employed in private homes, day care centres, and other health services. Although there is always a demand for this service, many of the child care institutions are government-run and this may mean employment growth could be limited by reductions in Federal and Provincial Government spending.

Cutbacks on social programs will likely affect the wages of child care workers also.

**For Further Information**

Nova Scotia Department of
Community Services
P.O. Box 696
Halifax, Nova Scotia
B3J 2T7

Froebel Institute for Early
Childhood Education
R.R. #1
Truro, Nova Scotia
B2N 5A9

St. Joseph's ECE Training Program
Ste. 300, 5663 Cornwallis Street
Halifax, Nova Scotia
B3K 1B6

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

| | |
|---|---|
| * Estimated employment in 1990: | **5,240** |
| * Employment growth between 1990 and 1996 is projected to be: | **Above Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **990** |

**Unemployment**

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Below Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$14,000*** |

**Estimated average income level only for workers employed in registered day care facilities.*

# *Guides, hosts/hostesses, and flight attendants*

**Typical Occupations**
flight attendant
museum guide
tour guide

**Nature of the Work**

This group includes a variety of occupations concerned with providing assistance to travellers and tourists. Duties may include escorting individuals or groups on travel tours and excursions, arranging recreational activities, and attending to the comfort of passengers on airplanes, ships or trains. These individuals may be required to work on holidays, evenings and weekends.

**Requirements**

The requirements for individuals in these occupations are varied. Employers are increasingly looking for individuals with training beyond high school. Advancement opportunities may increase with more education and training. Airline flight attendants are generally required to be bilingual and to have completed the twelfth grade.

**Training Paths**

Training in these occupations is generally provided on-the-job by the employer. Three campuses of the Nova Scotia Community College offer training in Hospitality Services. The program is two years in length at the Pictou and Lunenburg campuses, and ten months at the Nautical Institute. CompuCollege and Scotia Career Academy also offer programs in Travel and Tourism. At the Bachelor's level, Mount Saint Vincent University offers a four-year degree program in Tourism and Hospitality Management. Each of these programs requires completion of the twelfth grade for entrance.

**Skills and Aptitudes**

Individuals in these occupations should be poised, tactful, patient and resourceful and be able to deal comfortably with strangers. The ability to speak in more than one language would be a definite asset.

**Job Prospects**

Individuals in these occupations work in education, in the transportation services industries (especially air transport) and in Government. Although employment prospects for this group as a whole appear to be good, this is not likely to be the case with respect to flight attendants. Jobs in the transportation industries are more likely to be affected by changing economic conditions. During recessions, when the demand for air travel declines, many flight attendants are put on a part-time basis or laid off.

The base earnings for individuals working in these occupations may in some cases be supplemented by tips or gratuities.

**For Further Information**

Tourism Industry Association
of Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 2N8

Air Canada, Personnel Office
P.O. Box 470
Dartmouth, Nova Scotia
B2Y 3Y8

Canadian Airlines International
Employee Services
3111 Convair Drive
Mississauga, Ontario
L5P 1C2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **690**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **110**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$28,000**

# *Hairdressers and related occupations*

**Typical Occupations**

cosmetician
electrologist
esthetician
facial operator
manicurist

**Nature of the Work**

This occupational group is concerned with such activities as cutting, shampooing, colouring, perming and styling hair; cleaning, shaping and polishing finger and toe nails; skincare and applying cosmetics; and providing other beauty treatments.

Hairdressers usually work in clean, pleasant surroundings with good lighting and comfortable temperatures. Their work can be arduous and physically demanding as they must be on their feet for long periods of time. Hairdressers are often required to work evenings and weekends, when salons are busiest.

**Requirements**

While most hairdressers have either a General or Master's License, the minimum requirement is a Junior Certificate, which is issued after passing an examination given by the Association of Nova Scotia Hairdressers. Estheticians and manicurists also require a special license. There are no such requirements for barbers.

**Training Paths**

Training in these areas is provided at several campuses of the Nova Scotia Community College and private trade schools throughout the Province. The length of these hairdressing courses varies from nine months to two years with the minimum entrance requirement typically being the tenth grade. Following 1,250 hours of training, hairdressers are required to pass a theoretical and practical examination administered by the Association of Nova Scotia Hairdressers Board of Examiners to qualify for a Junior Certificate. An additional 960 hours of practical work experience qualifies the individual for a General License. A Master's License is available for those holding a General License for at least two years. Special licenses for facials and manicures may be obtained following appropriate training and examinations.

**Skills and Aptitudes**

Individuals in these occupations should possess good finger dexterity, be able to follow directions closely, and be imaginative and creative. Good communication and interpersonal skills to meet the needs of clients are assets. Business skills are important for those who plan to operate their own salons.

**Job Prospects**

These workers are most likely to be employed in hair salons and barber shops in the retail trade industry, or in personal and household services. Since there will always be a need for hair care, workers offering this service will always be in demand. These workers need to keep abreast of new hair styles, new techniques, and any new services that may be offered.

Hair care workers may be paid a wage, work on commission, or a combination of both. These wages may be compensated by tips or gratuities. As an alternative to working for an employer, some hairdressers start their own businesses.

**For Further Information**

Association of Nova Scotia Hairdressers
75 MacDonald Avenue, Unit 9
Dartmouth, Nova Scotia
B3B 1S5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **3,250**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **440**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$16,000**

# Hotel clerks

**Typical Occupations**
concierge
front office clerk
guest service agent
porter
reservation clerk

**Nature of the Work**
This occupational group is concerned with accommodating hotel customers by performing any combination of the following duties: registering guests; issuing room keys and instructions to porters; responding to enquiries regarding hotel services and registration of guests; guest relations; making and confirming reservations; giving statements to departing guests; and collecting payments. These individuals are often required to work weekends, evenings and holidays.

**Requirements**
There is an increasing demand for education beyond high school to be employed in this occupation. Advancement opportunities increase with more education and training.

**Training Paths**
There are a number of programs available for those interested in this field. Three campuses of the Nova Scotia Community College offer training in Hospitality Services. The program is two years in length at the Pictou and Lunenburg campuses, and ten months at the Nautical Institute. Each of these programs require completion of the twelfth grade for entrance.

**Skills and Aptitudes**
Individuals should possess good interpersonal and communication skills. A second language is an asset for individuals in this occupation. A neat appearance and a friendly, helpful manner are important. A good memory for names and faces is a definite asset. Computer skills are becoming increasingly important in these occupations.

**Job Prospects**
As part of the accommodation industry, employment for hotel clerks is greatly dependent on the level of tourism. Since the level of tourism will affect the demand for hotel accommodation, such factors as the value of the Canadian dollar, gasoline prices, and seasons will influence the number of hotel clerks required. Also, business conditions will affect the number of business trips and hence, the employment of these workers.

Since earnings of hotel clerks are usually supplemented by tips or gratuities, the location and class of hotel will largely determine the earnings of these workers.

**For Further Information**
Tourism Industry Association
of Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **450**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$24,000**

# Other service occupations

**Typical Occupations**
exterminator
housekeeper
massage therapist
travel agent
underwater diver

**Nature of the Work**
This group encompasses a variety of occupations, including those concerned with providing such services as underwater diving; fumigating buildings for pest control; cleaning laboratory equipment; performing housekeeping duties in private homes; therapeutic massage; and acting as a companion to elderly, disabled, or convalescent persons. Also included in this group are occupations concerned with clerical duties related to travel and transportation, such as arranging itineraries, providing tickets, and reserving accommodation for travellers.

**Requirements**
The only occupations in this group which have a licensing requirement are divers and exterminators. Divers are required to have a Certificate in Underwater Skills. Exterminators and Fumigators must obtain a license from the Department of Environment to be employed in Nova Scotia. For the occupations in this group, advancement opportunities increase with more education and training.

**Training Paths**
Training for most occupations in this group is received on the job under the supervision of a more experienced employee. Programs for individuals interested in becoming a travel agent are offered at Scotia Career Academy and CompuCollege. These programs require completion of the twelfth grade.

Divers must first obtain certification as a sports scuba diver, which takes six weeks at the Nautilus School of Diving in Halifax. Further training is available at either Seneca College or the Canadian Underwater Training Council, both of which are located in Toronto. These are one-year courses requiring completion of the twelfth grade for entrance. Successful completion of these courses allows the individual to be employed as a commercial diver.

Exterminators must write an exam before applying for their license to practice. The three levels of certification are structural, land and fumigation. Although there is no training requirement to write the exam, some combination of study and work experience is strongly recommended. Applicants must be sixteen years of age. These licenses must be renewed every two years and the exam rewritten after four years. A minimum passing grade of 75% must be obtained.

The Canadian College of Natural Health in Ottawa offers a diploma program leading to the designation of Natural Health Counsellor. Applicants must be over eighteen years of age and the program may be undertaken at the College in Ottawa or through correspondence. Course work includes the areas of stress management techniques, the study and application of the therapeutic properties of herbs, acupuncture, homeopathy and therapeutic massage. Graduates are considered to be primarily educators who encourage their clients to take responsibility for their health. The College should be contacted for further information.

**Skills and Aptitudes**
Except for divers, individuals in these occupations should enjoy repetitive and routine tasks. Household workers must be honest, discreet, dependable, courteous and neat. Physical stamina is also important. Due to the diversity of occupations in this group, specific information should be obtained from other sources.

**Job Prospects**
Many individuals working in these occupations are employed in health-related industries. An aging population could increase the demand for some health workers as people become more dependent on health care services. Aside from health services, others may be employed in personal and household services, amusement and recreational services, and accommodation, food and beverage services.

Earnings will vary depending on the specific occupation of the individual.

**For Further Information**
Canadian College of Natural Health
380 Forest Street
Ottawa, Ontario
K2B 8E6

Nautilus School of Diving
P.O. Box 33048
Quinpool Post Office
Halifax, Nova Scotia
B3L 2T6

Tourism Industry Association
of Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **2,690**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **190**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$12,000**

# Sales clerks

**Typical Occupations**
bank teller
cashier
commercial traveller
ticket agent

**Nature of the Work**

This occupational group is concerned with conducting sales in wholesale or retail businesses. Responsibilities include displaying merchandise, operating a cash register and handling cash transactions, marketing equipment and providing technical information about products, preparing sales slips, taking stock in designated areas, or selling and demonstrating goods in businesses, homes, or on the street. Duties may involve training, directing and coordinating the activities of other workers. Most sales clerks must be on their feet for long periods of time. Hours of work will depend on the needs of the employer. Many sales clerk positions are filled by part-time employees who are required to work in the evening and on weekends.

**Requirements**

As there are many occupations within this group, the requirements vary. Some occupations require on-the-job training while others may require a degree or diploma in a related area.

**Training Paths**

The usual path into this occupation is through on-the-job training with an employer. However, there is a one-year course available entitled Retail Sales/Merchandising. This course is offered at several campuses of the Nova Scotia Community College throughout the Province. Completion of the tenth grade is required for entry. Individuals interested in supervisory positions should consider this option.

**Skills and Aptitudes**

Individuals in this occupation should possess good interpersonal and communication skills. They should always be alert to the customer's needs and be as helpful and efficient as possible. A working knowledge of other languages, especially French, is an asset.

**Job Prospects**

The retail trade industry is the largest employer of sales clerks. Since retail trade is affected by the level of consumer spending, sales jobs are strongly dependent on economic conditions such as unemployment and wages.

Earnings can vary significantly, depending on the type of business, qualifications of the individual, and location of work. Base earnings may be supplemented with commissions from sales.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **33,070**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **3,510**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$21,000**

# *Waiters/waitresses and bartenders*

**Nature of the Work**

This occupational group includes a variety of occupations concerned with the following duties: reserving and arranging dining tables; welcoming and seating customers; providing menus; taking orders; mixing drinks and providing responsible beverage service; and serving food and beverages in formal and informal settings in such places as hotels, restaurants, clubs, cocktail lounges and cafeterias. Food and beverage service workers are on their feet most of the workday and often have to carry heavy trays of food, dishes, and glassware. Although some food and beverage service workers work forty hours or more a week, many are expected to work evenings, weekends and holidays. Tips usually supplement the wages of individuals employed in these occupations.

**Requirements**

There are a number of programs available in the Province which provide training in these areas. In Nova Scotia, a person must be nineteen years of age to serve alcoholic beverages in a licensed establishment.

**Training Paths**

Often a bartender will begin as a waiter/waitress or busperson and learn bartending at the workplace. However, there are a number of programs available for those who desire more formal training in these areas. Three campuses of the Nova Scotia Community College offer training in Hospitality Services. The program is two years in length at the Pictou and Lunenburg campuses, and ten months at the Nautical Institute. Each of these programs require completion of the twelfth grade for entrance. A one-year course in Dining Room Service is available at the I.W. Akerley Campus and Memorial High School. The minimum entrance requirement for this course is completion of the tenth grade, but the twelfth grade is preferred.

**Skills and Aptitudes**

Individuals in these occupations are in constant contact with the public. They must be well-spoken, friendly, well-groomed and pleasant to both their customers and co-workers. A second language is an asset. Good organizational skills, the ability to remember details and orders, and the ability to move gracefully and quickly are important.

**Job Prospects**

Individuals working at these occupations are primarily employed in the accommodation, food and beverage industries. Since a significant proportion of food and beverage sales by eating and drinking establishments is associated with the overall level of economic activity (for example, workers' lunches and entertainment of clients), sales and employment will increase with the growth of the economy. Growth in demand will also stem from rising personal incomes and increased leisure time.

There is substantial movement into and out of the occupation because the limited formal education and training requirements for these jobs allow easy entry, and the pre-dominance of part-time jobs is attractive to persons seeking a short-term source of income rather than a career.

Although the base rate of pay may be low for these occupations, earnings are often supplemented by tips or gratuities. Therefore, the class and type of restaurant and location of work can strongly influence the level of pay.

**For Further Information**

Nova Scotia Restaurant and Food
Services Association
1657 Barrington Street, Ste. 516
Halifax, Nova Scotia
B3J 2A1

Tourism Industry Association
of Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **7,860**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **950**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$14,000**

# Driving and Trucking Occupations

# Driving, trucking, and related occupations

**Typical Occupations**
ambulance driver
bus driver
cement-mixer driver
logging truck driver
taxi driver

**Nature of the Work**
This occupational group is concerned with operating buses, trucks, taxis, automobiles and similar vehicles to carry passengers, goods or materials over short or long distances. Truck drivers are responsible for ensuring their vehicles are safe for highway operation and making sure their trucks are properly weighted on any particular axle. Truck driving has become less physically demanding because most trucks now have more comfortable seats, better ventilation and improved cab designs; however, drivers on long runs may face boredom and fatigue. Also, driving through heavy traffic while dealing with passengers may be stressful.

**Requirements**
Individuals in these occupations must possess a valid driver's license or learner's license at the level required for the particular vehicle driven. Truck drivers must be free of alcohol violations on their driving record. Successful completion of a truck driver training course would be beneficial in gaining employment. Drivers of semi-trailers and tractor trailer combinations must have a Class One driver's license. Bus drivers, ambulance drivers and taxi drivers must be nineteen years of age and have one year of driving experience. Bus drivers must have a Class Two license, and ambulance and taxi drivers a Class Four license. A medical test must also be submitted.

**Training Paths**
Licensing is done by the Nova Scotia Department of Transportation. The Commercial Safety College in Truro offers a number of courses beneficial to individuals in these occupations. This institution should be contacted for further information regarding the courses offered.

**Skills and Aptitudes**
Individuals in these occupations should enjoy driving, possibly over extended periods of time and long distances, and be responsible, self-motivated individuals. An awareness of safety is important. As drivers often deal directly with the company's customers, they must get along well with people.

**Job Prospects**
These workers are employed mainly in truck transport, public transit, and educational service industries (school bus drivers). Truck driver jobs vary greatly in terms of earnings, weekly work hours, number of nights that must be spent "on the road" and the quality of equipment operated. The opening up of world trade may require more truck drivers to deliver goods to other provinces and the United States. Expanding towns and cities may require more transit bus drivers and taxi drivers as the need for transportation grows. A decline in the youth population could, perhaps, diminish the demand for school bus drivers.

Earnings will depend upon the specific occupation, industry of employment, and qualifications. Hours of work per day are limited by law. Also, the number of taxis working in an area is regulated by the Province.

Job opportunities may vary from year to year because the amount of freight moved by trucks fluctuates with the economy. Many new truck drivers are hired when the economy is expanding; during economic slowdowns, some truck drivers are laid off and others have decreased earnings because of reduced hours or miles driven. Independent owner-operators are particularly vulnerable to slowdowns.

**For Further Information**
Commercial Safety College
P.O. Box 848
Truro, Nova Scotia
B2N 5G6

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **11,660**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **1,140**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$27,000**

# Marine Transport and Fishing Occupations

# Deck [illegible]

**Typical Occupations**

able seaman/seawoman
cadet
deckhand

**Nature of the Work**

This occupational group is concerned with carrying out the deck and bridge responsibilities aboard a variety of vessels that operate inland and on lake, coastal and international waters. These vessels transport passengers and cargo and may also be involved in research and support operations. Under the supervision of the ship's deck officers, duties may include maintenance of the ship's structure and deck equipment, and assisting with the navigation, cargo and general operation of the vessel.

**Requirements**

Individuals seeking employment in these occupations should undergo training to acquire mandatory safety courses and job knowledge, skills and attitudes.

**Training Paths**

Training for these occupations is offered at the Nautical Institute of the Nova Scotia Community College. These Coast Guard-approved courses range from the required safety courses to job entry level programs. These programs are from four to eighteen weeks in duration. The course requirements vary, with good health being required for all courses, and good eyesight and colour vision for most.

**Skills and Aptitudes**

In these occupations individuals should be able to carry out, receive and communicate verbal instructions and work under minimal supervision in confined spaces and at varying heights.

**Job Prospects**

Water transportation industries and the Federal Government are the main employers of these workers. In the future, employment with the Government could be limited due to the reduction in government spending. However, increased trade with the United States could result in more movement of goods by water, resulting in an increased demand for water transportation.

**For Further Information**

Nautical Institute
Nova Scotia Community College
P.O. Box 1225
Port Hawkesbury, Nova Scotia
B0E 2V0

Marine Atlantic
100 Cameron Street
Moncton, New Brunswick
E1C 5Y6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **550**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$33,000**

# Deck officers

**Typical Occupations**
coast guard officer
master mariner
naval officer
navigator

**Nature of the Work**
This occupational group is concerned with the management and operation of a variety of vessels that operate inland and on lake, coastal and international waters. These vessels transport passengers and cargo and may also be involved in research and support operations. Responsibilities include the supervision of the ship's deck crew in the daily operation of the vessel and its maintenance, ensuring the safe navigation of the vessel, overseeing the loading and discharging of cargo, and maintaining the safety of passengers and crew at all times.

**Requirements**
Individuals seeking employment in these occupations are required to possess a Department of Transport Certificate of Competency. Training is offered for various levels and may culminate in Master Mariner certification.

**Training Paths**
Training is provided through the Nautical Institute of the Nova Scotia Community College. A 42-week Basic Navigation Cadet course provides students without any sea experience with the opportunity to embark on a career that could eventually lead to a command position. Through its Marine Navigation Certification Upgrading program, the Institute also offers a number of courses that prepare participants for all of the certificates required by the Department of Transport. Valid sea service is a requirement for the junior levels of certification. Possession of a prescribed certificate of competency and service as a ship's officer in charge of a watch are required for the intermediate and senior levels of certification.

**Skills and Aptitudes**
Individuals in these occupations should possess strong leadership skills and meet eyesight and colour vision requirements.

**Job Prospects**
Most of these workers are employed in water transportation industries. In addition, some are employed in the Federal Government. In the future, employment with the Government could be limited due to the reduction in government spending. However, increased trade with the United States could result in more movement of goods by water, resulting in an increased demand for water transportation.

**For Further Information**
Nautical Institute
Nova Scotia Community College
P.O. Box 1225
Port Hawkesbury, Nova Scotia
B0E 2V0

Marine Atlantic
100 Cameron Street
Moncton, New Brunswick
E1C 5Y6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **570**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$51,000**

# *Engi*[illegible]

**Typical Occupations**
boiler scaler
marine oiler
mechanical assistant
pumpman/pumpwoman
wiper

**Nature of the Work**
Under the direction of the engineer officers, this occupational group is concerned with general maintenance, cleaning, repair of engines and auxiliary equipment, and watchkeeping on board ship.

**Requirements**
Individuals seeking employment in these occupations are required to possess certification as an engineer cadet or engine room assistant. Applicants should be medically fit and meet the hearing, eyesight and colour vision requirements.

**Training Paths**
Training is provided through the Nautical Institute of the Nova Scotia Community College. These Coast Guard-approved courses range from the required safety courses to job entry level programs. These programs are four to eighteen weeks in duration. The Basic Engineering Cadet program is 42 weeks in length.

**Skills and Aptitudes**
In these occupations individuals should be mechanically inclined. They should also be able to carry out, receive and communicate verbal instructions and work under minimal supervision in the machinery spaces, sometimes at heights, and exposed to noise, heat and vibration.

**Job Prospects**
Water transportation industries and the Federal Government are the main employers of these workers. In the future, employment with the Government could be limited due to the reduction in government spending. However, increased trade with the United States could result in more movement of goods by water, resulting in an increased demand for water transportation.

**For Further Information**

Nautical Institute
Nova Scotia Community College
P.O. Box 1225
Port Hawkesbury, Nova Scotia
B0E 2V0

Marine Atlantic
100 Cameron Street
Moncton, New Brunswick
E1C 5Y6

## NOVA [illegible] CONDITIONS

**Employment**

* Estimated employment in 1990: **180**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# *Engine officers, ship*

**Typical Occupations**
chief marine engineer
diesel engineer officer
marine engineer officer

**Nature of the Work**
This occupational group is concerned with the efficient operation of the main propulsion and auxiliary machinery and the supervision of the activities of the engine room crew on board ship. Responsibilities include the operation, inspection and maintenance of the main propulsion machinery and auxiliary machinery such as generators, boilers, pumps, compressors, motors, condensers and other mechanical and electrical equipment, including the steering gear and deck machinery.

**Requirements**
Individuals seeking employment in these occupations are required to possess marine engineering certification for their rank and be medically fit and meet the hearing, eyesight and colour vision requirements.

**Training Paths**
Training is provided through the Nautical Institute of the Nova Scotia Community College. Students may progress through the officer levels from Fourth Class to First Class based on the accumulation of sea experience and complimentary classroom curriculum. The curriculum consists of courses of sufficient duration to obtain the required certification in the Institute's Upgrading Engineering program. Prior to Fourth Class level, students desiring a career at sea may enter a 42-week Basic Engineering Cadet program. This program provides training towards Fourth Class certification plus a reduction in the required sea experience of seven months. An additional 29 months of sea experience allows the student to enter the Fourth Class Engineering program.

**Skills and Aptitudes**
Individuals in these occupations should possess strong leadership abilities as well as mechanical and electrical diagnostic skills.

**Job Prospects**
Most of these workers are employed in water transportation industries. In addition, some are employed in the Federal Government. In the future, employment with the Government could be limited due to the reduction in government spending. However, increased trade with the United States could result in more movement of goods by water, and thus an increased demand for water transportation.

**For Further Information**
Nautical Institute
Nova Scotia Community College
P.O. Box 1225
Port Hawkesbury, Nova Scotia
B0E 2V0

Marine Atlantic
100 Cameron Street
Moncton, New Brunswick
E1C 5Y6

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **440**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$45,000**

# *Fishers*

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **7,290**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **550**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$30,000**

**Typical Occupations**

clam digger
dredger
lobster fisher
oyster raker

**Nature of the Work**

This occupational group is concerned with catching fish in coastal, inland or deep sea waters using lines or nets. Activities may include operating lobster pounds, repairing nets, sorting, cleaning and stowing the catch in the hold, unloading the catch at the dock, as well as repairing any damages to the vessel. Some fishers may employ and manage other fishers on board the vessel who may or may not be licensed. Strenuous activities and long hours are characteristic of this occupation; fishing trips may last several weeks or months, hundreds of miles away from home port. Many fishers work part-time, particularly in the summer when demand for these workers peaks. Many full-time workers and most part-time workers supplement their income by working in other activities during the off-season.

**Requirements**

To operate as a commercial fisher, individuals must be licensed by the Federal Department of Fisheries and Oceans Canada in Halifax. Initially, the individual will be issued a part-time fisher's license. After two years of full-time fishing, the license may be upgraded to full-time fisher.

**Training Paths**

Individuals entering this occupation receive the majority of their training through on-the-job experience under the supervision of other crew members. In addition, training is available at the Fisheries Training Centre in Pictou and the Nautical Institute of the Nova Scotia Community College. Courses are available in areas such as Navigation, Engine Repair, Net Repair, Emergency Duties, Bookkeeping and Fishing Master. The only prerequisite for these courses is current involvement in the fishing industry. For the navigation course, a minimum of twelve months of sea time is required. These courses generally range in length from one week to three months.

**Skills and Aptitudes**

Individuals in this occupation should enjoy working outdoors. Fishers follow exact instructions and often work long hours on fishing boats, sometimes exposed to extreme weather conditions. Physical strength and good manual dexterity are also required. A knowledge of boat motors and how to make minor electrical repairs would be an asset.

**Job Prospects**

Fishing has become extremely sensitive to business conditions over the past few years. Prosperity has been hampered by quota restrictions, trade restrictions and low prices. The fishing industry is dependent upon world markets for export. The import restriction on smaller lobsters into the U.S. market has forced Nova Scotia to search for new export markets.

Earnings depend on a number of factors, including the type of fishing, the specific occupational function, the size of the boat, and the amount and value of the catch.

**For Further Information**

Maritime Fishermen's Union
1200 Main Street
P.O. Box 1418
Shediac, New Brunswick
E0A 3G0

# *Occupations in fishing, hunting, and trapping*

**Typical Occupations**
aquaculture worker
fish hatchery attendant
fur trapper
hunter
sea moss gatherer

**Nature of the Work**
This occupational group is concerned with fishing, hunting and trapping wild animals for food and pelts for sale, and killing unwanted predators. Activities may range from trapping and guiding to breeding and raising fish or cultivating mussels.

**Requirements**
While there are no formal requirements, a university science degree may be helpful for occupations related to the breeding and raising of fish. Individuals wishing to become involved in hunting, trapping or guiding must obtain the relevant license. A first aid certificate is also required.

**Training Paths**
Training for most of these occupations is provided on the job under the supervision of more experienced employees. However, to perform technical work in a fish hatchery, a Bachelor of Science degree with a major in Biology or Marine Biology is strongly recommended. This three-year degree is available at several universities throughout Nova Scotia and requires the completion of the twelfth grade with an emphasis on mathematics and the sciences for entrance.

Hunter, trapper, and guide licenses may be obtained through the Nova Scotia Department of Natural Resources. Hunting licenses are also available at many sporting goods stores throughout Nova Scotia. To purchase a hunting license, or to be in possession of a firearm in a game habitat, one must be in possession of a Nova Scotia Firearm Hunting Certificate or a Nova Scotia Bowhunters Hunting Certificate. Certificates from other provinces and states are honoured as well.

Trappers must have passed the Fur Harvesters course. These courses are administered by the Department of Natural Resources.

A seven-day short course is offered for individuals who wish to increase their guiding knowledge in the fishing, hunting and recreational categories. Those who do not wish to take the seven-day course must pass written and practical exams and be in possession of a first aid and C.P.R. Certificate prior to a license being issued.

The minimum age for a Small Game License is fourteen years; however, under the age of sixteen years, the license must be purchased by the parent or guardian and the hunter must be in the immediate supervision of someone eighteen years of age or over who holds a Hunter Safety Certificate.

The minimum age to purchase a license to hunt big game is sixteen years; however, until that person has attained the age of eighteen, the license must be acquired by the parent or guardian and the hunter must be under the immediate supervision of a person over eighteen years who holds a Hunter Safety Certificate.

**Skills and Aptitudes**
Individuals in these occupations should enjoy working outdoors and being physically active. Some jobs require irregular or long working hours and may be very seasonal in nature. A mechanical aptitude may be necessary for making equipment repairs.

**Job Prospects**
These workers are employed in fishing and trapping industries such as mussel cultivation farms, fish hatcheries, and mink farms. Jobs in this occupational group are usually seasonal in nature and are affected by economic conditions. Opportunities in fishing occupations are limited because of reductions in total allowable catch. Aquaculture and related activities will become more important to assist in replenishing the existing stock of these fish and animals.

**For Further Information**
N.S. Department of Natural Resources
P.O. Box 698
Halifax, Nova Scotia
B3J 2T9

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **220**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$20,000**

# Officers, fishing vessel

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

| | |
|---|---|
| * Estimated employment in 1990: | **920** |
| * Employment growth between 1990 and 1996 is projected to be: | **Below Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **80** |

**Unemployment**

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Significantly Below Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$50,000** |

**Typical Occupations**
captain
mate
skipper
trawler captain

**Nature of the Work**
This occupational group includes individuals who command the crew of a fishing vessel, supervise the deck activities of crew members, and organize and direct the activities of workers engaged in harvesting fish and other marine life.

**Requirements**
While officer certification is not mandatory for those entering this occupation, it may be obtained through the Nautical Institute of the Nova Scotia Community College. A fishing license is required by all those in this occupation and can be obtained from the Federal Department of Fisheries and Oceans in Halifax.

**Training Paths**
Individuals in this occupation generally have been involved with the fishing industry for a number of years before the position of officer is obtained. For those who desire more formal training, courses are offered at the Nautical Institute of the Nova Scotia Community College for Fishing Master, levels I, II, III and IV. Entrance to these courses is limited to those individuals currently holding certification as a Navigation Cadet. Additionally, a variety of fishing-related courses are available at the Fisheries Training Centre in Pictou for those wishing to upgrade their skills.

**Skills and Aptitudes**
Individuals in this occupation should have a valid eyesight test certificate and possess strong leadership abilities. Exposure to various weather conditions and varying climates, often while travelling for long periods at a time, is required.

**Job Prospects**
As the name implies, fishing vessel officers are employed in the fishing industry. The employment outlook for these workers appears weak given the general decline of the fishing industry. However, fish are a renewable resource and improved management of the fishery will help to increase the stocks. Earnings can vary significantly, depending on the type of fishing, fish quotas set by the Government, and world prices of fish products. This type of work is seasonal in nature.

# Other water transportation occupations

**Typical Occupations**

barge captain
bridge operator
ferry terminal worker
ferryboat operator
lockmaster

**Nature of the Work**

This occupational group is concerned with water transport activities. Responsibilities include operating ships communication equipment, lighthouses, inland waterway and canal systems, drawbridges, motorboats and cable ferries.

**Requirements**

There are no formal training or certification requirements for entrance into these occupations.

**Training Paths**

Individuals entering these occupations receive the bulk of their training through on-the-job work experience.

**Skills and Aptitudes**

Individuals interested in these occupations should enjoy working outdoors close to the sea or other waterways.

**Job Prospects**

These workers generally find employment with the Federal Government and in water transportation industries such as ferry operation, sightseeing and freight transportation. Employment may decrease with cutbacks in government spending. The volume of freight shipped and, therefore, the number of jobs will depend on the business conditions in the Province and other regions.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **330**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$25,000**

# Mining and Quarrying Occupations

# Blasting Occupations

**Typical Occupations**
construction blaster
seismograph shooter
surface mining blaster

**Nature of the Work**
This occupational group is concerned with transporting, preparing, positioning and detonating explosives. The work is to dislodge ore and other minerals in surface mines and quarries, and in building and road excavations. Duties may involve post hole blasting, well digging, stump removal, seismic blasting and underwater blasting. As most of the work is done outdoors, exposure to weather conditions, noise, vibration and dust is characteristic of the job.

**Requirements**
An individual working in these occupations must be certified by the Board of Examiners at the Nova Scotia Department of Labour.

**Training Paths**
The method of training for this occupation is on the job under the supervision of a certified blaster. After a minimum of six months work experience, the candidate is eligible to write the Class Four examination. The individual may progress from Class Four to Class One based on the accumulation of work experience and the successful completion of the previous class. Candidates are required to do self-study before writing each examination. A minimum age of nineteen years is required for certification.

**Skills and Aptitudes**
Individuals in these occupations must be able to follow precise instructions and obey safety regulations. The ability to work as a member of a team is also necessary.

**Job Prospects**
Most workers in this small occupational group are employed in the construction industry. Employment, therefore, may be seasonal and sensitive to economic conditions.

**For Further Information**
Board of Examiners for Certification
of Blasters
Department of Labour
P.O. Box 697
Halifax, Nova Scotia
B3J 2T8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **50**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$39,000**

# *Mineral testing and sampling supervisors and inspectors*

**Nature of the Work**
This occupational group is concerned with supervising and coordinating the activities of workers engaged in mineral exploration, surface and underground mining, surveying, chemical analyses, mineral processing and preparing mineral ore samples. Activities may include inspecting, testing, grading and sampling mineral ore; performing mineral sample evaluation tests; and performing other quality control activities.

**Requirements**
Experience in minerals laboratory operations is an essential requirement for individuals in these occupations. Formal training would be a definite asset, as would supervisory training.

**Training Paths**
Training in this field is generally provided on the job. In Nova Scotia a person should be at least sixteen years old and have completed the tenth grade. The supervisor must have a thorough knowledge of the related machinery, tools, materials and procedures, as well as a sound background in the mineral testing and treating industry. It is recommended that individuals interested in this field take additional training. A three-year, cooperative-education-based course in Mineral Technology is available at the University College of Cape Breton. This course requires the completion of the twelfth grade for admission. A two-year program in Earth Resources Technology is offered at the Institute of Technology of the Nova Scotia Community College. The minimum entrance requirement is the twelfth grade with emphasis in mathematics, physics and chemistry.

**Skills and Aptitudes**
Manual dexterity, stamina, and an interest in chemistry and mineralogy are important in these occupations. Supervisory and effective communication skills are essential.

**Job Prospects**
The mining industry is the main area of employment for these individuals, which is mostly located in the Northern and Cape Breton regions of the Province. Also, a small number of jobs may be found in Government and consulting firms. Future employment will depend on the level of mining activity in the Province, as well as cutbacks in Government spending.

**For Further Information**
Nova Scotia Department of Natural Resources
Extension Services Division
P.O. Box 698
Halifax, Nova Scotia
B3J 2T9

Canadian Mineral Analysts
P.O. Box 894
Lynn Lake, Manitoba
R0B 0W0

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **20**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$34,000**

# *Mining supervisors*

**Typical Occupations**
blasting supervisor
dredgemaster
quarry boss
sample supervisor
underground mine supervisor

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers engaged in open-pit and underground mining and quarrying; oil, natural gas and water well-drilling and servicing; and construction drilling and tunnelling projects. The supervisor must have a working knowledge of the related machinery, tools, materials and procedures, as well as a sound "practical" background in the mining industry.

**Requirements**

While no formal education is required for individuals working in this occupation, previous related work experience is essential. A physical examination must be passed in order to work in an underground mine.

**Training Paths**

Training in this field is generally provided on the job; however, completion of a related program would enhance employment prospects. A two-year program in Earth Resources Technology is offered at the Institute of Technology of the Nova Scotia Community College. The minimum entrance requirement is the twelfth grade with emphasis in mathematics, physics and chemistry. Employers normally require that a person be at least sixteen years of age and have completed the tenth grade, although individuals with less education are sometimes hired.

**Skills and Aptitudes**

Manual dexterity and a mechanical and electrical aptitude are important in this occupation. Supervisory and effective communication skills are essential.

**Job Prospects**

These workers are primarily employed in coal mining activity. This work is concentrated in the Northern and Cape Breton regions of the Province. Nova Scotia continues to operate coal-fired power plants which means there is still a demand for coal. However, environmental and efficiency concerns have already forced some industries to abandon the use of coal and others may follow. Employment opportunities in this occupation may increase with the development of oil and gas projects off the coasts of Nova Scotia and Newfoundland.

**For Further Information**

Mining Society of Nova Scotia
88 Leeside Drive
Coxheath, Nova Scotia
B1R 1S6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **360**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$42,000**

# Rotary well-drillers (petroleum)

**Typical Occupations**

acid treater
cable driller
oil driller
seismograph driller
well cementer

**Nature of the Work**

This occupation is concerned with rotary drilling to search for or to extract oil and natural gas from the earth. Duties may include assembling, erecting and operating drilling rigs; handling drill pipes, bits, casings and downhole measuring instruments; performing routine sampling and testing; servicing drilling rigs and related equipment; and operating heavy mobile equipment. Rotary well-drillers may work closely with a highly motivated team of technical specialists such as petroleum drilling, production or reservoir engineers, or geologists and geophysicists.

**Requirements**

While there are no formal training requirements for individuals in this occupation, the completion of a training program will greatly enhance employment prospects.

**Training Paths**

A two-year program in Earth Resources Technology is available at the Institute of Technology of the Nova Scotia Community College. The minimum entrance requirement is the twelfth grade with emphasis in mathematics, physics and chemistry. Upon completion of the two-year program, the graduates may elect to seek employment in industry or government, or they may pursue a degree in Petroleum Engineering. Alternatively, an individual could begin their career in a junior position and gain knowledge of all drilling operations by working in various positions under the supervision of a more experienced employee.

**Skills and Aptitudes**

Individuals in this occupation should be prepared to accept working outdoors in all kinds of weather. Exposure to noise, dust and petroleum products is normal. Manual dexterity and physical strength are required.

**Job Prospects**

These workers are employed in oil and gas construction projects. Employment could pick up with the development of oil and gas projects in Atlantic Canada. The world price of oil is a significant factor affecting oil and gas exploration.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **80**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$60,000**

# Farming and Forestry Occupations, Skilled

# Farm[illegible]

**Typical Occupations**
combine operator
crop farmer
egg producer
fruit grower
livestock farmer

**Nature of the Work**
This occupational group is concerned with working on or operating a farm. Activities may include planning farm operations; purchasing equipment and supplies; operating farm machinery; and, at times, hiring, training and supervising workers. Many types of farming are seasonal in nature. Although many farm operators and managers on crop farms work from sun-up to sundown during the planting and harvesting seasons, they often work full-time on the farm only six to seven months a year, and many have second jobs off the farm.

**Requirements**
There are no formal entrance requirements for individuals wishing to enter these occupations.

**Training Paths**
The majority of training is provided on the job. Individuals interested in these occupations may apply to the Nova Scotia Agricultural College for training in many different areas of farming. These programs are two to four years in length. Successful completion of the twelfth grade with an emphasis on science and mathematics is generally specified as a prerequisite for acceptance into these programs.

**Skills and Aptitudes**
Individuals in this occupation should have an interest in the farming industry and enjoy working outdoors. They should keep abreast of continuing advances in farming methods. Farmers should be willing to try new processes and adapt to the constantly changing technologies to produce their crops or raise their livestock more efficiently. Mechanical aptitude is also valuable for the operator of a small farm.

**Job Prospects**
Although agriculture accounts for a small percentage of production in the Province, it is very important to the economy of some rural areas.

Workers can be employed in many different types of farming. Employment in farming occupations is often seasonal with the highest number of individuals employed during the warmer months of the year. Although many farm operators and managers on crop farms work from sun-up to sundown during the planting and harvesting seasons, they often work on the farm only six to seven months a year, and many have second jobs off the farm. Future growth in farming occupations will be dependent upon such factors as the cost of labour, weather conditions and the amount of trade with other countries.

Earnings depend upon the specific occupation, qualifications and experience of the individual, and the type of farm.

## NOVA [illegible] CONDITIONS

**Employment**
* Estimated employment in 1990: **1,820**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$18,000**

# *Farming supervisors and inspectors*

**Typical Occupations**

dairy farm supervisor
egg grader
grain sampler
hatchery operator
stable boss

**Nature of the Work**

This group includes occupations concerned with supervising and coordinating activities such as: planting, cultivating, spraying, irrigating and harvesting of crops; breeding and caring for poultry and fur-bearing animals; preparing produce for market; and maintaining parks, grounds and sports fields. These supervisors occasionally perform the activities of the workers they supervise. Responsibilities may include the inspection, testing, grading and sampling of eggs, field crops, fruit and vegetables, livestock and horticulture products.

**Requirements**

While there are no formal entrance requirements for individuals wishing to enter into these occupations, previous work experience is essential.

**Training Paths**

The majority of training is provided on the job. Individuals interested in these occupations may apply to the Nova Scotia Agricultural College for training in many different areas of farming. These programs are two to four years in length. Successful completion of the twelfth grade with an emphasis on science and mathematics is generally specified as a prerequisite for acceptance into these programs. An additional three to five years of work experience is generally required for employment as a supervisor or inspector.

**Skills and Aptitudes**

Individuals in this occupation should have an interest in the farming industry and enjoy working outdoors. They should keep abreast of continuing advances in farming methods. Farmers should be willing to try new processes and adapt to the constantly changing technologies to produce their crops or raise their livestock more efficiently. Mechanical aptitude is also valuable for the operator of a small farm. Supervisory and communication skills are essential.

**Job Prospects**

Although it represents a small percentage of production in the Province, some rural areas are dependent on farming. Employment in farming occupations is often seasonal with the highest number of individuals employed during the warmer months of the year. Although many farm operators and managers on crop farms work from sun-up to sundown during the planting and harvesting seasons, they often work on the farm only six to seven months a year, and many have second jobs off the farm. Future growth in farming occupations will be dependent on such factors as the cost of labour, weather conditions and the amount of trade with other countries.

**For Further Information**

Nova Scotia Agricultural College
P.O. Box 550
Truro, Nova Scotia
B2N 5E3

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **330**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$24,000**

# Forest[illegible]

**Typical Occupations**

ecologist
forest agrologist
naturalist
silviculturalist

**Nature of the Work**

This occupational group is concerned with all aspects of integrated forest resource management. Foresters provide the knowledge and experience to make the forest resources serve the public, the community and their employer. Responsibilities may include forest, wildlife and outdoor recreation management; forest research; silviculture planning; harvesting and transportation; forest protection; private and Crown land administration; conservation; consultation; extension education; and policy development and implementation.

**Requirements**

Designation as a professional forester, or RPF (Registered Professional Forester), requires completion of a Bachelor's degree.

**Training Paths**

Individuals interested in this occupation must complete a Bachelor of Science degree at one of six universities across Canada. These programs are four to five years in length.

The closest geographically to Nova Scotia is offered at the University of New Brunswick in Fredericton. Emphasis in the program is placed on quantitative decision-making skills, computer-based technology, and the sciences. Master's and Doctoral degrees in Forestry are also offered at most of these institutions. Admission requirements vary with each university, but general preparation involves high school academic English, mathematics and the sciences. Students are advised to supplement university training with first-hand experience in forestry.

**Skills and Aptitudes**

Individuals should have an aptitude for administrative work and project management. Leadership skills are important. Effective communication skills, both oral and written, are necessary. Candidates must be able to work both individually and as part of a team. An interest in the sciences at the high school level is important.

**Job Prospects**

Positions are available through Federal, Provincial and Territorial Governments, as well as in large and small private businesses in the logging and forestry industry and in wholesale trade. Employment in the harvesting occupations will depend on the requirements for forestry products such as shingles, lumber and newsprint. In turn, the purchase of these products depends on factors such as construction activity, retail sales and interest rates. Downsizing in the Provincial Government may limit employment opportunities.

In addition, environmental issues, including concerns about pollution and an increasing emphasis on recycling, constitute problems which must be faced by the forestry and logging industry in Nova Scotia.

**For Further Information**

Nova Scotia Department of
Natural Resources
P.O. Box 68
Truro, Nova Scotia
B2N 5B8

Nova Scotia Forestry Association
P.O. Box 1113
Truro, Nova Scotia
B2N 5G9

Canadian Institute of Forestry
P.O. Box 803
Fredericton, New Brunswick
E3B 5G4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **270**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# Forestry supervisors and inspectors

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **240**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$26,000**

### Typical Occupations

estimator
land examiner
log grader
timber inspector
wood scaler

### Nature of the Work

This group includes occupations concerned with supervising and coordinating activities of workers engaged in all aspects of integrated forest resource management. Foresters and forestry supervisors and inspectors provide the knowledge and experience to make the forest resources serve the public, the community and their employer. Responsibilities may include forest, wildlife and outdoor recreation management; forest research; silviculture planning; harvesting and transportation; forest protection; private and Crown land administration; conservation; consultation; extension education; and policy development and implementation. These supervisors may perform the activities of the workers they supervise.

### Requirements

Designation as a professional forester or RPF (Registered Professional Forester) requires completion of a Bachelor's degree. To obtain a supervisory or inspection position, usually at least three to five years of work experience is required.

### Training Paths

Individuals interested in this occupation must complete a Bachelor of Science degree at one of six universities across Canada. These programs are four to five years in length.

The closest geographically to Nova Scotia is offered at the University of New Brunswick in Fredericton. Emphasis in the program is placed on quantitative decision-making skills, computer-based technology, and the sciences. Master's and Doctoral degrees in Forestry are also offered at most of these institutions. Admission requirements vary with each university, but general preparation involves high school academic English, mathematics and the sciences. Students are advised to supplement university training with first-hand experience in forestry.

### Skills and Aptitudes

Individuals should have an aptitude for administrative work and project management. Leadership skills are important. Effective communication skills, both oral and written, are also necessary. Candidates must be able to work both individually and as part of a team. Supervisory skills are essential. An interest in the sciences at the high school level is important.

### Job Prospects

Positions are available through Federal, Provincial and Territorial Governments, as well as in large and small private businesses in the logging and forestry industry and in wholesale trade. Employment in the harvesting occupations will depend on the requirements for forestry products such as shingles, lumber and newsprint. In turn, the purchase of these products depends on factors such as construction activity, retail sales and interest rates. Downsizing in the Provincial Government may limit employment opportunities.

In addition, environmental issues, including concerns about pollution and an increasing emphasis on recycling, constitute problems which must be faced by the forestry and logging industry in Nova Scotia.

### For Further Information

Nova Scotia Department of
Natural Resources
P.O. Box 68
Truro, Nova Scotia
B2N 5B8

Nova Scotia Forestry Association
P.O. Box 1113
Truro, Nova Scotia
B2N 5G9

Canadian Institute of Forestry
P.O. Box 803
Fredericton, New Brunswick
E3B 5G4

# Labouring, Elemental, and Semi-Skilled Occupations

# Elem[redacted]-related occupations, indoor

**Typical Occupations**
butcher
dairy hand
laundromat attendant
sewing machine operator
weigher

**Nature of the Work**

This occupational group encompasses a wide variety of machine-related occupations which do not require a high degree of formal training and involve work performed inside a home, building, or other structure. Examples include packaging, laundering and sewing machine operations. The work performed in this occupational group often involves shifts at various hours of the day or part-time work.

**Requirements**

There are no formal requirements for the majority of occupations within this group, other than a minimum age of sixteen years.

**Training Paths**

Training for these occupations is generally in the form of on-the-job training provided by the employer.

**Skills and Aptitudes**

Individuals in these occupations should have good physical health and be able to carry out instructions given by a supervisor.

**Job Prospects**

The wide range of jobs in this occupational group means that work can be obtained in a variety of industries. However, seasonal variations in a number of the industries affect the ability of some workers to maintain employment throughout the year. Many of the jobs in this occupational group are also affected by economic conditions. Unemployment tends to increase when economic conditions are poor.

Since this group covers a wide range of occupations and industries, wages of workers can vary considerably. However, many jobs are relatively low-paying.

## NOVA [redacted] CONDITIONS

**Employment**

* Estimated employment in 1990: **9,490**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **990**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$21,000**

# Elemental, machine-related occupations, outdoor

**Typical Occupations**
back hoe operator
cement paver
coal digger
jackhammer operator
miner

**Nature of the Work**
This occupational group encompasses a wide variety of machine-related occupations which do not require a high degree of formal training and generally involve work performed out-of-doors. Examples include mining, cutting, excavating, hoisting and material handling. Workers often face exposure to harsh weather conditions. In some jobs in this occupational group, workers may be required to work long hours when weather conditions are good.

**Requirements**
There are no formal requirements for the majority of occupations within this group, other than a minimum age of sixteen years.

**Training Paths**
Training for these occupations is generally in the form of on-the-job training provided by the employer.

**Skills and Aptitudes**
Individuals in these occupations should have good physical health and strength and be able to carry out instructions given by a supervisor.

**Job Prospects**
Due to the wide range of jobs in this occupational group, work can be obtained in a variety of industries. Many of the jobs are seasonal in nature and are affected by economic conditions. Steady work may be difficult to obtain, especially when economic conditions are poor. Due to the wide range of occupations and industries in this group, wages of workers can also vary considerably.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **5,230**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **370**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$30,000**

# General labouring occupations, high strength

**Typical Occupations**
ditch digger
farm worker
roofer
upholsterer
vending machine attendant

**Nature of the Work**
This occupational group encompasses a wide variety of general labouring occupations requiring a high level of strength and physical endurance. Examples include mining labourer, construction labourer, longshore worker and timber cutter. Workers are often exposed to harsh weather conditions. The physical requirements often make it difficult for people to keep working in the occupations for a long number of years.

**Requirements**
There are no formal requirements for the majority of occupations within this group, other than a minimum age of sixteen years.

**Training Paths**
Training for these occupations is generally in the form of on-the-job training provided by the employer.

**Skills and Aptitudes**
Individuals in these occupations should have good physical health and strength and be able to carry out instructions given by a supervisor.

**Job Prospects**
A wide range of jobs exist in this occupational group, and work can be obtained in a variety of industries. The seasonal nature of many of the jobs affects the ability of some workers to maintain work throughout the year. Work is more difficult to obtain when economic conditions are poor. Due to the wide range of occupations and industries in this group, wages of workers can also vary considerably. Many jobs are relatively low-paying.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **13,780**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **870**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$23,000**

# *General labouring occupations, low strength*

**Typical Occupations**
janitor
messenger
newspaper carrier
service station attendant
street vendor

**Nature of the Work**
This occupational group encompasses a wide variety of general labouring occupations which do not require a high degree of strength. Examples include service station attendant, chambermaid and street vendor. Shiftwork and part-time work characterize many occupations in this group.

**Requirements**
There are no formal requirements for the majority of occupations within this group, other than a minimum age of sixteen years.

**Training Paths**
Training for these occupations is generally in the form of on-the-job training provided by the employer.

**Skills and Aptitudes**
Individuals in these occupations should have good physical health and be able to carry out instructions given by a supervisor.

**Job Prospects**
Work can be obtained in a variety of industries due to the wide range of jobs in this occupational group. Seasonal variations in a number of the industries affect the ability of some workers to maintain employment throughout the year. Economic conditions also affect job opportunities in this occupational group. Wages of workers can vary considerably because of the wide range of jobs and industries covered in this occupational group. However, many jobs are relatively low-paying.

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
- Estimated employment in 1990: **26,090**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **2,850**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Above Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$19,000**

# Other semi-skilled occupations

**Typical Occupations**
film developer
insurance collector
mail carrier
security guard

**Nature of the Work**
This occupational group encompasses a wide variety of occupations which do not require a high degree of formal training. Examples include cashiers and tellers, guards and security guards and mail carriers. The work performed in this occupational group often involves shifts at various hours of the day or part-time work.

**Requirements**
There are no formal requirements for the majority of occupations within this group, other than a minimum age of sixteen years.

**Training Paths**
Training for these occupations is generally in the form of on-the-job training provided by the employer.

**Skills and Aptitudes**
Individuals in these occupations should have good physical health and be able to carry out instructions given by a supervisor.

**Job Prospects**
Due to the wide range of jobs in this occupational group, work can be obtained in a variety of industries. In many of the occupations, job openings are affected by economic conditions. Wages of workers vary considerably because of the wide range of occupations and industries covered. However, many of the jobs tend to be relatively low-paying.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **9,290**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **910**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$28,000**

# *Semi-skilled, machine-related occupations, indoor*

**$29,000**

**Typical Occupations**
bookbinder
engraving machine operator
kiln operator
steel treater
tile maker

**Nature of the Work**

This occupational group encompasses a wide variety of machine-related occupations which do not require a high degree of formal training and generally involve work performed inside a building, office, or other structure. Examples include machine tool operators, printing press operators and cabinetmakers. The work performed in many of the jobs may involve shiftwork.

**Requirements**

There are no formal requirements for the majority of occupations within this group, other than a minimum age of sixteen years.

**Training Paths**

Training for these occupations is generally in the form of on-the-job training provided by the employer.

**Skills and Aptitudes**

Individuals in these occupations should have good physical health and be able to carry out instructions given by a supervisor.

**Job Prospects**

There are a wide range of jobs in this occupational group and work can be obtained in a variety of industries, many of which are in the manufacturing sector. General economic conditions tend to affect the number of job openings. Wages of workers vary considerably due to the range of jobs in this occupational group. Wages vary with experience and skill. Entry level jobs tend to be relatively low-paying.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **2,940**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **260**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991:

# Trade Occupations: Workers, Supervisors, and Inspectors

# *Acc[illegible] supervisors*

### NOVA [illegible] CONDITIONS

**Employment**

| | |
|---|---|
| * Estimated employment in 1990: | **1,270** |
| * Employment growth between 1990 and 1996 is projected to be: | **Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **150** |

**Unemployment**

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Significantly Below Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$19,000** |

**Typical Occupations**
apartment house supervisor
chief porter
executive housekeeper
property manager

**Nature of the Work**
This occupational group is concerned with supervising and coordinating the activities of workers engaged in providing accommodation services in hotels, motels, trailer parks, apartment houses, office buildings and similar facilities. Activities may include supervising and coordinating the operation of a specific department, executing work schedules, retaining supply stock, hiring and assigning duties to staff, recommending or initiating personnel changes, training workers and evaluating employee performance. Individuals in these occupations are often required to work evenings, weekends and holidays.

**Requirements**
While the main requirement for individuals in these occupations is previous related work experience, employers are increasingly looking for individuals with at least a high school education. Advancement opportunities increase with more education and training. Certification is available for many of the occupations in this group. The Tourism Industry Association of Nova Scotia should be contacted for further information.

**Training Paths**
In these occupations, education in management and hospitality services is a definite asset. A four-year degree program in Tourism and Hospitality Management is offered at Mount Saint Vincent University and a two-year diploma program entitled Hospitality Administration is available at the University College of Cape Breton. Three campuses of the Nova Scotia Community College offer two-year diploma programs in this field. Hotel-Motel-Restaurant Management is offered at the I.W. Akerley Campus, while the Pictou Campus and Lunenburg Campus offer a program in Hospitality Services. Hospitality Services is also offered at the Nautical Institute; this program is ten months in duration. Entrance into the above programs requires completion of the twelfth grade, the only exception being Hotel-Motel-Restaurant Management, which requires completion of the eleventh grade. In addition, several private trade schools in Nova Scotia offer related programs. Contact the Department of Advanced Education and Job Training for specific course information.

**Skills and Aptitudes**
Individuals in these occupations should possess good fundamental mathematical, management and administrative skills. An aptitude for neatness and cleanliness, a friendly disposition and the desire to perform duties of a routine nature are important. The individual should also be able to create a positive working atmosphere for his/her staff.

**Job Prospects**
These individuals are employed in the accommodation, food and beverage industries, as well as in the real estate industry where they supervise workers engaged in the maintenance of office and apartment buildings.

Employment in the accommodation, food and beverage industries, where most of these individuals are employed, depends to some extent on tourism and is therefore subject to fluctuations associated with changing economic conditions and with seasonal changes in tourist activity over the course of the year. Population growth and rising family and personal incomes contribute to increases in demand for the products of this industry, and therefore to increases in employment in these occupations.

**For Further Information**
Tourism Industry Association of
Nova Scotia (TIANS)
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

# *Aircraft fabricating and assembling occupations*

**Typical Occupations**
aircraft rigger
airframe assembler
controls assembler
engine installer
wing tank mechanic

**Nature of the Work**
This occupational group is concerned with assembling aircraft and aircraft subassemblies such as power plants, undercarriages, and tails and wings, normally using manufactured components. Activities may include fitting, bolting, riveting and adjusting fabricated or assembled equipment using common or special hand or power tools, jigs and fixtures. Individuals may be required to work near noise and vibration. Some shiftwork may be required.

**Requirements**
While there are no formal entrance requirements for this occupational group, individuals should complete the Aircraft Technician (Sheet Metal) program.

**Training Paths**
The Aircraft Technician program is offered at the Adult Vocational Training Campus in Dartmouth. Applicants to this program are tested and interviewed to assess their acceptability into the program. Completion of the tenth grade is generally the minimum requirement for entrance into this ten-month course.

**Skills and Aptitudes**
Individuals in these occupations should have high school courses in mathematics, science, and industrial arts. A keen interest in working with machines and routine processes is required. Good spatial perception, form perception and eye/finger coordination is also required.

**Job Prospects**
Although most of these workers are employed in aircraft and parts manufacturing, some are employed in air transportation industries. The level of tourism and the number of government contracts will likely influence the level of employment in these occupations. Employment appears to be limited to the Metro and Northern regions of the Province. Workers in these occupations must keep up-to-date with changing technology in aircraft materials, fabricating and assembling.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

International Association of Machinists
and Aerospace Workers
100 Metcalfe Street, Ste. 300
Ottawa, Ontario
K1P 5M1

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **160**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$26,000**

# Aircraft maintenance engineers

**Typical Occupations**
aircraft engine mechanic
aircraft mechanic
hydraulic mechanic
propeller mechanic

**Nature of the Work**
This occupation is concerned with inspecting, and certifying to approved standards, maintenance work conducted on airframes, aircraft systems, engines and accessories. Activities may include servicing, inspecting and overhauling aircraft and aircraft engines to ensure airworthiness; repairing, modifying, assembling and testing aircraft accessories, pressurization, flight control, hydraulic and electrical systems; installing and servicing fabric, sheet metal and composite surface coverings and structures; and replacing or repairing avionics systems. Some shiftwork may be required.

**Requirements**
Employment as an Aircraft Maintenance Engineer (AME) may be obtained after receiving a Transport Canada AME license. Generally, interested individuals must successfully complete a basic aircraft maintenance training course which holds Transport Canada recognition or approval. Upon completion of such an approved program, the individual requires four years of combined training and on-the-job experience in the commercial aviation industry to qualify to write the exams for the AME license. For further information on these requirements, contact one of Transport Canada's Aviation District or Regional Offices.

**Training Paths**
A ten-month course in Basic Aircraft Technician training is available at the Dartmouth Adult Vocational Training Campus of the Nova Scotia Community College, requiring completion of at least the tenth grade. However, this program is not currently recognized by Transport Canada. Federally approved basic Aircraft Maintenance training programs do exist in Moncton, New Brunswick, and Gander, Newfoundland, through their community college systems. These programs are fifteen months in length and are accredited by Transport Canada for eighteen months toward the four-year training and experience requirement as mentioned above. Completion of the twelfth grade with an emphasis on mathematics and physics is required for entrance into these approved training programs.

**Skills and Aptitudes**
Individuals in this occupation should have good manual dexterity and spatial and form perception. The ability to follow instructions and perform to a high degree of accuracy is very important. As new and more complex aircraft are designed, there is a constant requirement for aviation mechanics and AMEs to upgrade their skills. A strong background in electronics, machine work or general mechanics may be helpful.

**Job Prospects**
These workers are employed mainly in the aircraft and parts manufacturing industry and the air transportation industry. The employment outlook will depend on a number of economic factors, specifically those affecting tourism, such as fuel prices, income and taxes. Declines in air travel during recessions force airlines to curtail the number of flights, which results in less aircraft maintenance and, consequently, layoffs for aircraft mechanics. These workers should be aware of the need to keep abreast of changing technology in electronics, composite materials and other areas.

**For Further Information**
Aircraft Maintenance Engineers
Association (Atlantic) Inc.
Site 16, R.R. #1
P.O. Box 9
Fredericton, New Brunswick
E3B 4X2

Transport Canada Aviation District Office
P.O. Box 280
Elmsdale, Nova Scotia
B0N 1M0

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **620**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **60**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$34,000**

# *Boilermakers, platers, and structural metal fabricators*

**Nature of the Work**
This occupational group is concerned with fabricating, assembling, erecting and repairing boilers, and fabricating structural metal parts and sub-products for storage tanks, ships, scaffolding, and other structures made from steel plates, tubes, beams, or similar materials.

**Requirements**
The occupations of boilermaker and structural metal fabricator are designated apprenticeable trades in Nova Scotia. Certification is not compulsory, however, many employers require that their employees be registered apprentices or holders of Certificates of Qualification. Training for the other occupations in this group may be provided on the job under the supervision of more experienced employees.

**Training Paths**
To enter into either of the two apprenticeable trades mentioned above, individuals may seek employment directly with an employer and proceed through the block release program. There are two other routes to enter into the trade of structural metal fabricator. Individuals may receive basic training through a one-year program offered at the Cape Breton and Dartmouth Adult Vocational Training campuses of the Nova Scotia Community College. Individuals obtaining employment in these trades should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in these trades have completed the tenth grade. The term of apprenticeship for the structural metal fabricator and boilermaker trades is four years.

**Skills and Aptitudes**
Individuals in these trades should possess a good mechanical aptitude and an understanding of the physical properties of materials and methods of assembly. Good form perception, manual dexterity, physical strength and agility are also important. Those interested in the structural metal fabricating trade should have no fear of heights.

**Job Prospects**
Jobs can be found in a number of industries, including metal fabricating, shipbuilding, construction, Government and mining. There may be some additional opportunities available with the development of oil and gas projects off the coast of Nova Scotia and Newfoundland. Reductions in government spending may limit employment opportunities available in the shipbuilding industry.

Most of the industries that purchase boilers are sensitive to economic conditions. Therefore, during economic recessions and slowdowns, construction boilermakers may be unemployed. However, because boilers must be maintained and repaired even during economic downturns, boilermaker mechanics generally have more stable employment.

The majority of these workers are unionized, with the hourly wage specified in the agreement between the union and the employer. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **150**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$36,000**

# *Bricklayers and stonemasons*

**Nature of the Work**
This occupational group is concerned with preparing and laying brick, stone, concrete block, tile, marble, refractory and related materials using chisels, hammers, trowels, levels and other hand tools.

**Requirements**
The occupation of bricklayer is a designated apprenticeable trade with compulsory certification.

**Training Paths**
There are two entry paths into this occupation. Individuals may receive basic training through a one-year training program offered at several campuses of the Nova Scotia Community College or they may seek employment directly with an employer and proceed through the block release program. Training for this trade takes place on a modular basis with modules being completed at their own pace. Individuals obtaining employment in this trade must register with the Apprenticeship Section of the Department of Advanced Education and Job Training in order that they may receive credit for their training and experience. Typically, individuals in this trade have completed the ninth grade. The term of apprenticeship for this trade is generally four years.

**Skills and Aptitudes**
Individuals in this trade should be in good physical condition and be able to work comfortably at heights. A good imagination and creative ability are also assets in this trade.

**Job Prospects**
Bricklayers and stonemasons are employed primarily in the construction industry. Population and business growth will create a need for new factories, offices, schools, hospitals and other structures. Employment of bricklayers and stonemasons, like that of many other construction workers, is sensitive to seasonal fluctuations and to longer-term changes in the level of economic activity. When the level of construction activity falls, workers in these trades can experience periods of unemployment.

The majority of these workers are unionized, with the hourly wage specified in the collective agreement between the employer and the union. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Bricklayers, Masons Independent
Union of Canada
1876 St. Clair Avenue West
Toronto, Ontario
M6N 1J8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **600**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **60**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$30,000**

# Carpenters

**Nature of the Work**
This occupational group is concerned with constructing, renovating and maintaining wooden structures and installing fixtures using power saws, planes, braces, hammers and other carpentry tools.

**Requirements**
The occupation of carpenter is a designated apprenticeable trade. While certification is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**
There are several entry paths into this occupation. Individuals may receive basic training through a one- or two-year program offered at several campuses of the Nova Scotia Community College. Individuals may also seek employment directly with an employer and proceed through the block release program. Training for this occupation takes place on a modular basis, with modules being completed at their own pace. Individuals obtaining employment in this trade should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in this trade have completed the tenth grade and they should have a good understanding of mathematics. The term of apprenticeship for this trade is generally four years. Four campuses in the Nova Scotia Community College also offer a program in Cabinet Carpentry. These programs range from one to three years in length and have varying requirements for admission.

**Skills and Aptitudes**
Individuals in this trade should be in good physical condition. They are required, at times, to work under adverse conditions such as cold and wet weather and to work at varying heights from ladders, staging and roof tops. Good hand to eye coordination and material handling abilities are necessary. Some artistic ability is an asset.

**Job Prospects**
Carpenters make up the largest number of workers in the construction industry. Construction activity should increase in response to demand for new housing and commercial and industrial plants and the need to renovate and modernize existing structures. Individuals entering into this occupation should expect to experience periods of unemployment. This results from the short-term nature of many construction projects and the cyclical nature of the construction industry. Building activity depends on many factors such as interest rates, availability of mortgage funds, government spending and business investment, that vary with the state of the economy. During economic downturns, job openings for carpenters are reduced. Construction activity is seasonal with peak activity occurring during the warmer months of the year.

The majority of carpenters in the Province are unionized and the hourly wage rate is specified in the collective agreement between the employer and the union. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program. Aside from site work, carpenters may have the opportunity to branch off into administrative positions which can result in higher wages.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **6,210**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **520**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$26,000**

# *Chemical supervisors and inspectors*

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **200**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$45,000**

### Typical Occupations

acid tester
chemical processing supervisor
chemical tester
gas inspector

### Nature of the Work

This occupational group includes both inspectors and supervisors. Supervisors are concerned with supervising and coordinating the activities of workers engaged in refining, processing and preparing petroleum, chemicals, coal, rubber, plastic and related materials for subsequent use. The individuals may be involved in the interpretation of results using statistical methods and computerized process control techniques. The supervisor must have a thorough knowledge of the properties of petroleum, coal, rubber and plastic and be proficient in the use of all related machinery and tools. Responsibilities of inspectors typically include inspecting, testing, grading, and sampling products and raw materials for quality control activities.

### Requirements

Individuals in these occupations typically have completed the twelfth grade and a technician or technology diploma program, although people with less education may be accepted in smaller operations. Previous related experience may offset the educational requirements.

### Training Paths

The University College of Cape Breton offers a three-year program in Chemical Technology and the Nova Scotia Agricultural College offers a two-year program in Chemistry Laboratory Technology. Individuals may choose to enrol in a two-year Earth Resources Technology program at the Institute of Technology. Completion of the twelfth grade with courses in chemistry, mathematics, English and physics is required for entry into the above programs. Training in these occupations may also be provided on the job.

### Skills and Aptitudes

Individuals must have a keen eye for detail and be capable of conducting precise procedures repeatedly. Manual dexterity, stamina and ability to work with machinery are important skills required in these occupations. He/she must be capable of supervising staff and maintaining production schedules. Computer skills, technical writing, problem-solving and teamwork skills are also important.

### Job Prospects

Workers in these occupations are primarily employed in manufacturing. Roughly half are employed in the production of rubber products, and the remainder work in the oil refineries as well as in industries producing chemicals, pulp and paper, and textiles.

Times of economic recession may have a significant impact on some of these industries, notably those producing automobile tires, pulp and paper, and textiles. For the most part, however, longer term prospects are more encouraging.

### For Further Information

Canadian Chemical Producers Association
350 Sparks Street, Ste. 805
Ottawa, Ontario
K1R 7S8

Canadian Society for Chemical and
Engineering Technology
1785 Alta Vista Drive, Ste. 300
Ottawa, Ontario
K1G 3Y6

# Construction electricians

**Typical Occupations**
- electrical wirer
- electrician
- mine electrician
- switchboard installer

**Nature of the Work**
These occupations are concerned with the installation and repair of electrical equipment and the wiring of residential, commercial and industrial projects to provide electric energy. Maintenance electricians spend much of their time in preventative maintenance. They periodically inspect equipment and locate and correct problems before breakdowns occur. Most electricians work a standard forty-hour week, although overtime may be required. Those in maintenance work may have to work nights, on weekends, and be on call.

**Requirements**
There are two occupations within this group: construction electrician and mine electrician, both of which are designated apprenticeable trades. Construction electricians must be certified to work in this Province. While certification for mine electricians is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**
There are two entry paths into these occupations. Individuals may receive basic training through a one- or two-year program offered at several campuses of the Nova Scotia Community College or they may seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in these trades must register with the Apprenticeship Section of the Department of Advanced Education and Job Training in order to receive credit for their training and experience. Typically, individuals in these trades have completed at least the eleventh grade. The term of apprenticeship is normally four years. While many campuses of the Community College offer programs in Electrical Construction (Wiring), the Mine Electrician program is only available at the University College of Cape Breton.

**Skills and Aptitudes**
Individuals in these trades should have a good foundation in mathematics and science. A good mechanical and electrical aptitude is also important.

**Job Prospects**
The majority of individuals in these trades are employed in construction. There are, however, considerable numbers employed in coal mining, electric power and a variety of other industries.

The construction industry is subject to substantial fluctuations in employment over time, both as a result of seasonal changes and as a result of changes in the level of economic activity. The short-term nature of many construction projects implies that employment relationships with employers may not be permanent. As a result, electricians can expect to experience periods of unemployment.

The majority of construction electricians in the Province are unionized and the hourly wage rate is specified in the collective agreement between the employer and the union. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program. Aside from site work, electricians may have the opportunity to branch off into administrative positions which can result in higher wages.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,870**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# Construction supervisors and inspectors

**Typical Occupations**

bricklaying supervisor
building contractor
pipefitter supervisor
plumber supervisor
safety supervisor

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers involved in erecting, repairing and maintaining buildings and other works. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities.

**Requirements**

Previous related experience is essential for individuals in these occupations.

**Training Paths**

Training in this field is generally provided on the job. In Nova Scotia, a person must be at least sixteen years of age and have completed the tenth grade, although people with less education are sometimes accepted. The supervisor must have a thorough knowledge of related machinery, tools, materials and procedures, as well as a sound background in the construction industry. It is recommended that individuals interested in this field take a two-year program such as Construction Administration Technology offered at the Institute of Technology or Building Technology at the I.W. Akerley Campus, or a three-year program in Construction Technology offered at the University College of Cape Breton. These programs require completion of either the eleventh or twelfth grades for entrance.

**Skills and Aptitudes**

Individuals in these occupations should be in good physical condition. Manual dexterity, stamina, and a mechanical aptitude are important skills in these occupations. Supervisory and effective communication skills are essential.

**Job Prospects**

The vast majority of individuals in these occupations are employed in construction. Since the construction industry is subject to substantial fluctuations in employment over time (both as a result of seasonal changes and as a result of changes in the level of economic activity), workers in this industry typically experience periodic unemployment. However, employees in supervisory positions are likely to be less subject to this problem.

**For Further Information**

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **2,330**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **300**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$39,000**

# Cooks

**Typical Occupations**

cafeteria cook
hospital cook
pastry helper
ship's cook

**Nature of the Work**

This occupational group is concerned with planning menus, ordering supplies, and preparing and cooking foods in hotels, restaurants, private households and other non-manufacturing establishments. The working conditions in this occupation are varied. While some restaurant and institutional kitchens may have modern equipment, convenient work areas and air conditioning, many may not be as well equipped. Individuals employed in restaurants may be required to work on weekends and holidays, while the working hours in institutional kitchens, such as in public schools or factories, may be more regular.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **5,940**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **820**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$19,000**

**Requirements**

Within this occupational group, the occupation of cook is a designated apprenticeable trade. While certification is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**

There are several entry paths into this occupation. Individuals may receive basic training through programs offered at various campuses of the Nova Scotia Community College. These programs range in length from one to three years. Individuals may also seek employment directly with an employer and proceed through the modular program. Theory training for this occupation takes place on a modular basis with modules being completed at their own pace. Individuals are expected to be at least sixteen years of age and to have completed the tenth grade, although the twelfth grade is preferred. The term of apprenticeship is generally three years. Individuals obtaining employment in this trade should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience.

**Skills and Aptitudes**

Cooks usually require the ability to plan menus; to order, store, prepare and cook foods; and to understand and apply the rules of hygiene and sanitation.

**Job Prospects**

Most of these workers are employed in the accommodation, food and beverage service industries. These individuals are also employed in hospitals, nursing homes and in retail trade as many department stores offer food services. The demand for these workers is greater during the warmer months when tourism is at its peak.

Since a significant proportion of food and beverage sales by eating and drinking establishments is associated with the overall level of economic activity (workers' lunches and entertainment of clients, for example), sales and employment will increase with the growth of the economy. Other factors contributing to employment growth will be population growth, rising family and personal incomes, and more leisure time that will allow people to dine out and take vacations more often.

Earnings for cooks are often supplemented by tips or gratuities. The base salary can vary significantly, depending largely upon the location and quality of the restaurant.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Canadian Federation of Chefs
Nova Scotia Chapter
P.O. Box 8114, Station "A"
Halifax, Nova Scotia
B3K 5L8

Tourism Industry Association of Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

# Electrical power line workers

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,980**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **140**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$38,000**

**Nature of the Work**

This occupational group is concerned with erecting, installing and repairing electrical power, lighting and wire communications equipment. Duties may include erecting and servicing street lights, repairing and maintaining electrical equipment in generating stations or powerhouses or inspecting, repairing and adjusting electric meters used for recording electric current consumption. Power line workers are usually required to work outdoors at varying heights in all kinds of weather.

**Requirements**

Electrical power line worker is a designated apprenticeable trade. While certification is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**

To gain entry into this occupation, individuals must seek employment directly with an employer and proceed through the block release program where the employer will release the apprentice to take a block of training. Theory training is conducted at the Institute of Technology of the Nova Scotia Community College. Individuals obtaining employment in this trade should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in this trade have completed the twelfth grade. The term of apprenticeship is normally four years.

**Skills and Aptitudes**

Individuals interested in this occupation should have a solid foundation in mathematics and science. These individuals must be able to work to precise specifications and levels of safety when installing and repairing power lines.

**Job Prospects**

These workers are employed in construction industries, electrical power generating stations, manufacturing industries and transportation industries. The number of jobs available is closely related to economic conditions. Employment for electrical power line workers in the construction industry may be more sensitive to economic conditions than in other industries.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Personnel Manager
Nova Scotia Power Corporation
P.O. Box 910
Halifax, Nova Scotia
B3J 2W5

# *Electrical power supervisors and inspectors*

**Typical Occupations**

cable installing supervisor
cable tester
electrician supervisor
transmission tester

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers engaged in erecting, installing and repairing electrical power, lighting and wire communications equipment. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities in the erection, installation and repair of equipment for electrical power generation, transmission and distribution; wiring in buildings; and wire communications services.

**Requirements**

Individuals in these occupations typically have training in the electrical power line worker trade combined with several years of work experience. The occupation of electrical power line worker is a designated apprenticeable trade in Nova Scotia. Individuals working at the supervisory or inspection level would generally be required to possess journeyperson certification.

**Training Paths**

For more information on training in the electrical power line worker trade, consult the appropriate occupational description on the preceding page. At least three to five years of additional work experience is usually required to find employment as a supervisor or inspector.

**Skills and Aptitudes**

Individuals interested in these occupations should have a solid foundation in mathematics and science. These individuals must be able to work to precise specifications and levels of safety when installing and repairing power lines. Effective communication and supervisory skills are essential.

**Job Prospects**

These workers are employed in construction industries, electrical power generating stations, manufacturing industries and transportation industries. The number of jobs available is closely related to economic conditions. Employment for electrical power line workers in the construction industry may be more sensitive to economic conditions than in other industries.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Personnel Manager
Nova Scotia Power Corporation
P.O. Box 910
Halifax, Nova Scotia
B3J 2W5

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **810**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **60**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$44,000**

# *Electronic equipment installers and repairers*

**Typical Occupations**

alarm systems installer
communications technician
office machine mechanic
radio electrician
television repairer

**Nature of the Work**

This occupational group is concerned with installing and repairing electronic equipment, such as radio and television transmitters and receivers, sound recording and reproduction equipment, navigation aids and radar devices, and business machines. Preventative maintenance is a major responsibility of electronic repairers. They periodically check, clean, and repair equipment to detect and prevent major malfunctions. Activities may include cutting, stripping and soldering wires; mounting parts and connecting circuitry; disassembling and replacing components; and calibrating and making adjustments and replacements on-site or in a shop or factory using a variety of hand tools and specialized equipment. Some electronics positions may involve exposure to electrical shock hazards from equipment. These individuals generally work a forty-hour week; however, depending on their place of employment, they may have to work shiftwork, evenings and weekends.

**Requirements**

Electronic equipment repairers generally have completed a training program in electronics, although some individuals receive training on the job.

**Training Paths**

There are a number of programs available at various campuses of the Nova Scotia Community College. The Halifax Campus offers a one-year program in Business Equipment Technology requiring completion of the twelfth grade for entrance. A two-year program in Appliance Service Repair is offered at the I.W. Akerley Campus which requires completion of at least the tenth grade for entrance. Those who have completed the tenth grade may also apply for the Cable and Industrial Television program at Cobetec. This program is two years in length. A two-year Electronics program is offered at many of the campuses and may require completion of the eleventh or twelfth grade to apply. Burridge Campus offers a two-year program in Marine Electronics requiring grade eleven. In addition, five campuses offer an Electronic Engineering Technician program. This program is one or two years in length and applicants must have completed the twelfth grade. Also, a strong standing in mathematics and physics is generally specified as a prerequisite for acceptance into the above programs.

**Skills and Aptitudes**

Individuals should have the ability to understand principles of electronics and mechanical operations. They are required to perform intricate work with their hands and must have good motor skills and manual dexterity. Individuals must be able to collaborate and cooperate with others as they will often be involved in teamwork.

**Job Prospects**

Workers in these occupations may be found in a number of industries including wholesale and retail trade, broadcasting, telecommunications and manufacturing.

The growing use of electronic equipment both in offices (copiers, faxes, computers) and in homes suggests that prospects for employment in these occupations are good.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,520**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **140**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# *Food and beverage processing supervisors and inspectors*

**Typical Occupations**
beef grader
cattle tester
fish inspector
food packaging inspector
milk production supervisor

**Nature of the Work**
This occupational group includes both supervisors and inspectors. Supervisors are concerned with supervising and coordinating the activities of workers engaged in preparing food and related products for domestic or commercial use. These individuals must also meet budget constraints and ensure that employees have a safe environment in which to work. The supervisor must have a thorough knowledge of the related machinery, tools, materials, and procedures, as well as a sound background in the processing industry. The responsibilities of inspectors may include inspecting, testing, grading and sampling work concerned with quality control activities, ensuring that government regulatory compliances are met.

**Requirements**
Previous related work experience is essential for individuals in these occupations.

**Training Paths**
Typically, employers require that individuals in this field complete the twelfth grade. While training for supervisors is generally on the job, employers prefer that the inspectors complete at least one year of a related degree or diploma program. The Agricultural College offers a three-year diploma program in Food Laboratory Technology, and a one-year Quality Control Food Testing program is available at Kingstec. Each of these programs requires completion of the twelfth grade. At the Bachelor's level, Acadia University offers a degree in Science with a specialization in Food Science. This program is four years in length and offers a cooperative education option.

**Skills and Aptitudes**
People in these occupations must be able to work alone and as part of a team. As well, they should be reliable, flexible, inventive and outgoing. A keen sense of taste and smell, the stamina to stand for hours at a time, and personal cleanliness are important qualifications. Experience with computers and statistical process control, and the ability to analyze and solve problems related to quality are important. Effective communication skills are essential.

**Job Prospects**
Most of the individuals employed in these occupations work in the food processing industry, which includes fish processing plants. There are, however, a number of workers in the wholesale and retail trade industry and in the fishery.

Work of this nature tends to be highly seasonal, reflecting the annual cycle of planting and harvesting in agriculture, and the seasonal patterns of activity in the fishery. In addition, resource constraints in agriculture and the crisis in the fishery suggest that job prospects in these occupations over the next few years will be limited.

**For Further Information**
Farmer's Dairy
P.O. Box 8114, Station "A"
Halifax, Nova Scotia
B3K 5L8

Seafood Producers Association of
Nova Scotia
P.O. Box 991
Dartmouth, Nova Scotia
B2Y 3Z6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **700**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **100**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$28,000**

# *Food service technicians and supervisors*

**Typical Occupations**
cafeteria supervisor
caterer
dining room supervisor
kitchen supervisor

**Nature of the Work**
This occupational group is concerned with supervising and coordinating the day-to-day operation of a food service department in restaurants, hospitals, educational institutions or similar establishments. Activities include the supervision of the kitchen and the dining room, overseeing food preparation and cooking, checking the quality and portioning of the food, as well as investigating customers' complaints. In a hospital or institutional setting, specific responsibilities may include the collection of patient data required to ensure proper diet; preparation and service of patient and staff meals, and distribution of patient trays; supervision of trayline and warewashing areas; and training of staff and students. Individuals may be responsible for collecting, analyzing, and preparing all financial reports and inventory control statements. Food service supervisors and technicians are on their feet most of the time and are often expected to work weekends and holidays.

**Requirements**
Completion of the twelfth grade with an emphasis on chemistry and biology is required. Job prospects are enhanced with membership in the Canadian Food Service Supervisor Association, as employers recognize the high standards required of its members. New members are required to pass an entrance examination. Employer preference is given to graduates of a home economics program.

**Training Paths**
The Canadian Food Service Supervisor Association (CFSSA), in conjunction with the Canadian School of Management, offers a bachelor level program in Health Services Administration in Food Management for members with CFSSA certification. Mount Saint Vincent University offers a four-year Bachelor of Home Economics degree program with a major in Foods and Nutrition and a specialization in Food Service Administration. Also at the Bachelor's level, Acadia University offers a degree in Science with a specialization in Food Science. This program is four years in length and offers a cooperative education option. A two-year diploma course in Food Service Technology is offered at the Institute of Technology of the Nova Scotia Community College. These programs require successful completion of the twelfth grade for entry.

Other related programs include a four-year degree program in Tourism and Hospitality Management at Mount Saint Vincent University and a two-year diploma program in Hospitality Administration at the University College of Cape Breton. Three campuses of the Nova Scotia Community College offer two-year diploma programs in this field. Hotel-Motel-Restaurant Management is offered at the I.W. Akerley Campus while the Pictou Campus and Lunenburg Campus offer a program in Hospitality Services. Hospitality Services is also offered at the Nautical Institute; this program is ten months in duration. Entrance into the above programs requires completion of the twelfth grade, the only exception being Hotel-Motel-Restaurant Management, which requires completion of the eleventh grade.

**Skills and Aptitudes**
Individuals in these occupations are in constant contact with the public. Mental and visual demands are above average. The ability to make sound judgments and take initiative are important for food service supervisors and technicians. Depending on the work setting, teaching skills as well as knowledge of basic nutrition and therapeutic diets is required. Supervisory and effective communication skills are essential.

**Job Prospects**
Most workers in these occupations are primarily employed in the accommodation, food and beverage industries. However, there are also significant numbers employed in hospitals and other related institutions, and in retail trade.

Employment in the accommodation, food and beverage industries depends to some extent on tourism and is therefore subject to fluctuations associated with changing economic conditions and with seasonal changes in tourist activity over the course of the year. Population growth and rising family and personal incomes contribute to increased demand for the products of this industry, and therefore to increases in employment in these occupations.

**For Further Information**
Nova Scotia Food Service Supervisors Association
P.O. Box 207
Armdale, Nova Scotia
B3L 4J9

Tourism Industry Association
of Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **2,340**

- Employment growth between 1990 and 1996 is projected to be: **Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **260**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$23,000**

# *Glaziers*

**Typical Occupations**
glass installer
stained glass glazier
structural glass installer
windshield repairer

**Nature of the Work**

This occupational group is involved with preparing and installing glass in buildings and furniture, utilizing bolts, screws, putty, grinding and buffing wheels, glass cutting tools, drills, hand tools and other devices. Activities may include sketching; tracing; selecting size, colour and type of glass; bending and affixing metal framework around stained glass sections; placing glass in frames, mouldings or sashes; installing mirrors or structural glass; and securing prefabricated glass units together.

**Requirements**

There are no formal entrance requirements to work in this occupation.

**Training Paths**

The only method of training for this occupation in Nova Scotia is through on-the-job training under the supervision of a more experienced employee. Employers will generally require that new employees be at least sixteen years of age with a minimum education level of the tenth grade. Complete training may last up to three or four years.

**Skills and Aptitudes**

Although individuals working in this occupation may work outdoors on some projects, most work would be done indoors. Some physical activity is required such as climbing, handling heavy materials, reaching and crouching. Individuals may be required to work at heights. Precise measurements and specific tools must be used when working with glass. Good quality work and the ability to read blueprints are also important.

**Job Prospects**

Glaziers are employed in construction, retail trade and the manufacturing industry. As construction is strongly influenced by business conditions, the state of the economy will have a bearing on the employment level for glaziers. People wishing to become construction glaziers should expect to experience periods of unemployment. These result from the limited duration of construction projects and the cyclical nature of the construction industry. Employment opportunities should be greatest in urban areas, where most glazing contractors and retail glass shops are located.

**For Further Information**

Aluminum, Brick and Glass Workers
International Union
406 North Service Road East, Unit 2
Oakville, Ontario
L6H 5R2

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **280**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$27,000**

# *Industrial electricians and refrigeration and air conditioning mechanics*

**Typical Occupations**
aircraft electrician
diesel electrician
motor vehicle electrician
refrigerator repairer
ship electrician

**Nature of the Work**
This occupational group is concerned with installing and repairing electrical equipment, such as domestic appliances, industrial machinery, aircraft and ships. Activities may include cutting, stripping, fitting and soldering wires; replacing wires and defective parts; analyzing faults with test instruments; and making adjustments and replacements on-site, in a shop or in a factory using a variety of hand and power tools and specialized equipment. These mechanics generally work a forty-hour week; however, depending on the place of employment, they may work overtime or irregular hours.

**Requirements**
Two occupations within this group are industrial electrician and refrigeration and air conditioning mechanic, each of which is designated an apprenticeable trade. Refrigeration and air conditioning mechanics must be certified to work in this Province. While certification for industrial electricians is not compulsory, many employers require that their employees be registered apprentices or holders of a Certificate of Qualification.

**Training Paths**
Individuals interested in these occupations may receive basic training through a one- or two-year program offered at several campuses of the Nova Scotia Community College. As an alternative, individuals may seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in these trades should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in these trades have completed the eleventh grade. The term of apprenticeship is normally four years.

**Skills and Aptitudes**
Individuals in these trades should have a good foundation in mathematics and science. An understanding of the principles of electricity, a good mechanical aptitude, physical strength and the ability to work at heights are important.

**Job Prospects**
Industrial electricians and refrigeration and air conditioning mechanics are employed in a wide range of industries, including wholesale and retail trade, construction, transportation and a variety of manufacturing industries.

As these are apprenticeable trades, wage rates for apprentices are usually determined as a percentage of the journeyperson rate and increase upon completion of each stage of the apprenticeship program.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Heating, Refrigeration and Air Conditioning
Institute of Canada
Nova Scotia Chapter
P.O. Box 5125
Halifax, Nova Scotia
B3L 4M7

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
* Estimated employment in 1990: **1,500**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **140**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$32,000**

# *Industrial, farm, and construction machinery mechanics*

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **2,360**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **120**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$34,000**

**Typical Occupations**

construction equipment repairer
diesel mechanic
elevator repairer
millwright
tractor mechanic

**Nature of the Work**

This occupational group is concerned with repairing, adjusting and servicing a wide variety of industrial machinery used in production processes. Activities may include disassembling, aligning and fitting parts; occasionally machining semi-finished or repaired parts; and installing and adjusting parts to specifications.

**Requirements**

There are a number of occupations within this group, four of which are the designated apprenticeable trades of industrial mechanic, mine mechanic, farm equipment repair mechanic and heavy duty equipment repair mechanic. While certification for these occupations is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification. For the other occupations in this group, it is recommended that these or similar mechanic courses be completed before entering the job market.

**Training Paths**

There are two entry paths into these trades. Individuals may receive basic training through programs offered at several campuses of the Nova Scotia Community College or at the University College of Cape Breton in areas such as Heavy Duty Equipment Repair, Small Gas Engine Repair, Industrial Mechanics, Mine Mechanics, or Farm Equipment Repair. These programs range in length from one to three years. Alternatively, one may seek employment directly with an employer and proceed through the block release program for the apprenticeable trade courses. Individuals obtaining employment in these trades should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in these trades have completed the tenth grade or its equivalent. The term of apprenticeship is normally four years.

**Skills and Aptitudes**

A good mechanical aptitude and manual dexterity are important qualifications for workers in these occupations. Agility and physical strength may be required. Interested individuals should have a solid background in high school science and mathematics.

**Job Prospects**

Employment can be found across a variety of industries including mining, manufacturing, trade and transportation. The range of employment opportunities helps prevent these mechanics from becoming unemployed for lengthy periods of time. The increasing sophistication of farm equipment and automated production equipment will make it more difficult for users to do their own repairs, forcing them to rely more on skilled mechanics in the future. While industrial machinery mechanics are not usually affected by seasonal changes in production, farm and construction machinery mechanics may experience periods of unemployment during the winter months when there is less activity in those industries.

The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

# Inspectors, Government and non-Government

**Typical Occupations**

customs excise officer
immigration agent
motor vehicle inspector
public health inspector
tax assessor

**Nature of the Work**

This occupational group is concerned with inspecting, testing, grading and sampling in both Government and non-Government sectors. Responsibilities include enforcing adherence to laws and regulations and observance of the organization's policies and procedures, providing advice on health matters, quality of service, safety and other regulations and standards in organizations or agencies. These individuals are often involved in field work, and some inspectors travel frequently. Many inspectors work long and often irregular hours.

**Requirements**

The educational requirements in this group are varied and specific. The length and type of training depends on both the employer and the industry in which the individual is working. Generally, individuals have completed at least a two-year technician or technology program in a related area. A certificate or license may be required, as may be previous experience in a related field.

**Training Paths**

Technician and technology programs in a variety of disciplines are offered through the Nova Scotia Community College and the University College of Cape Breton. These programs may be one to three years in length. Specific campus calendars should be consulted for further information on a specific discipline and the corresponding entrance requirements.

**Skills and Aptitudes**

Individuals in these occupations should possess an interest in the field in which they are working. Good observational, analytical and communication skills are important.

**Job Prospects**

Although some inspectors work in the private sector, the vast majority of individuals in this occupation are employed by Federal, Provincial and Municipal Governments. The need for spending restraint by all levels of Government will therefore be a major factor affecting employment prospects. At the same time, however, growing concerns about the environment will be a factor contributing to employment opportunities in this field.

**For Further Information**

Nova Scotia Government Employees Union
6080 Young Street, Ste. 509
Halifax, Nova Scotia
B3K 5L2

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **1,170**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$40,000**

# *Machinists*

### Typical Occupations
aircraft machinist
automotive machinist
lathe machinist
machine tool setter
printing-press machinist

### Nature of the Work
This occupational group is concerned with shaping metal into parts or products of specified dimensions. Activities include measuring, turning, boring, milling, sawing, precision grinding and planing.

### Requirements
This occupation is a designated apprenticeable trade in this Province. While certification is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

### Training Paths
There are two entry paths into this occupation. Individuals may receive basic training through a one or two-year program offered at several campuses of the Nova Scotia Community College. Individuals may also seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in this trade should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in this trade have completed the tenth grade. The term of apprenticeship for this trade is generally four years.

### Skills and Aptitudes
Individuals in this occupation should have high school courses in mathematics and science and be able to understand engineering drawings and specifications.

### Job Prospects
Machinists work mainly in metal fabricating and tire manufacturing industries. A much smaller number of jobs exist in Government and in industries engaged in wholesale and retail trade. A large number of small-sized metal fabricating firms are scattered across the Province. In contrast, employment in tire manufacturing is concentrated in three large plants.

Economic conditions and developments, such as free trade, may affect the number of employment opportunities. Job opportunities for machinists change with economic conditions. When fewer machined goods are needed, such as during a recession, machinists involved in production may be laid off or have fewer hours of work. Machinists involved in plant maintenance often have more stable jobs because proper maintenance and the repair of costly equipment is necessary even when production levels fall.

The majority of these workers are unionized with the hourly wage specified in the agreement between the union and the employer. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

### For Further Information
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

International Association of Machinists
and Aerospace Workers
100 Metcalfe Street, Ste. 300
Ottawa, Ontario
K1P 5M1

## NOVA SCOTIA LABOUR MARKET CONDITIONS

### Employment
* Estimated employment in 1990: **1,000**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **110**

### Unemployment
* The unemployment rate during the third quarter of 1990 was: **Average**

### Earnings Potential
* Estimated average annual earnings in 1991: **$32,000**

# Marine craft fabricators

**Typical Occupations**

boatbuilder
marine machinist
ship fitter
shipwright

**Nature of the Work**

This occupational group is concerned with constructing and servicing ships and making, assembling and repairing other metal, wood or fibreglass marine craft. Activities may include laying out and shaping parts; aligning, fitting and fastening fabricated parts and components; installing and repairing engines, auxiliary machinery, accessories, rigging and equipment; and making adjustments. These individuals may have to work outdoors in cramped and awkward places. Some exposure to noise and vibration may be required.

**Requirements**

There are a number of occupations within this group, one of which is marine fitter. This occupation is a designated apprenticeable trade. Although certification is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**

There are two entry paths into the marine fitter trade. Individuals may receive basic training through a one- or two-year program offered at several campuses of the Nova Scotia Community College or they may seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in this trade should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in this trade have completed the tenth grade. The term of apprenticeship for this trade is four years.

**Skills and Aptitudes**

Individuals in this occupation should be mechanically inclined and enjoy working with ships. A good understanding of the specifications and underlying principles of ship construction and operation would be an asset.

**Job Prospects**

The shipbuilding industry and the Federal Government are the largest employers of marine craft fabricators. Industries engaged in the manufacturing of railway rolling stock also employ a significant number of these workers. Problems in the fishery will likely result in a significantly reduced demand for fishing vessels. In addition, the Federal Government's intention to downsize the public service could mean fewer jobs.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **980**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$31,000**

# *Mechanical and repair supervisors and inspectors*

**Typical Occupations**

airbrake tester
garage supervisor
millwright supervisor
motor vehicle inspector
scale inspector

**Nature of the Work**

This group includes occupations concerned with supervising and coordinating the activities of workers engaged in repairing mechanical equipment, such as motor vehicles; trailers; aircraft; rail transport equipment; industrial, farm and construction machinery; business and commercial machines; precision instruments; and watches and clocks. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities in the repair and servicing of mechanical equipment. Individuals in this occupational group may be exposed to noise and vibration. Some shiftwork may be required.

**Requirements**

The specific entrance requirements for these occupations vary widely depending on the area of specialization. However, some type of mechanical repair course would be beneficial. Individuals in these trades typically have training in a related mechanics or repair field and several years of experience before securing employment in a supervisory or inspection position. Individuals working at the supervisory or inspection level are generally required to possess journeyperson certification.

**Training Paths**

There are various training programs offered at the Nova Scotia Community College. For further information regarding specific non-supervisory occupations, consult the relevant occupational groups in this handbook. An additional three to five years of work experience is generally required for employment as a supervisor or inspector.

**Skills and Aptitudes**

It is essential that individuals in these occupations be both electrically and mechanically inclined and enjoy working with engines and motors. The ability to work well with others is also necessary. Supervisory and communication skills are essential.

**Job Prospects**

These individuals supervise mechanics and repairers in a relatively wide range of activities. Most are employed in wholesale and retail trade but there are also significant numbers engaged in the transportation industry (road, rail and air and public transit), and in manufacturing (especially tires, and aircraft and parts).

The greatest number supervise motor vehicle mechanics who are primarily employed in service stations and other vehicle repair shops, in retail trade, and in the repair shops of trucking firms and transit companies.

A substantial number of others are employed in an industrial setting, supervising mechanics engaged in the repair of machinery. Some also supervise the repair of business equipment, precision instruments, and watches.

**For Further Information**

Industrial Training Services
Apprenticeship Division
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **1,180**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **60**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$34,000**

# *Metal machining, fabricating, and assembling supervisors and inspectors*

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **390**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

### Typical Occupations

aircraft inspector
auto parts inspector
business machine assembling supervisor
elevator inspector
machine shop supervisor

### Nature of the Work

This occupational group is concerned with supervising and coordinating the activities of workers engaged in fabricating, shaping and assembling metal into parts or products by machining. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities in metal machining, fabricating and assembling.

### Requirements

Individuals in these occupations typically have training in the machinist trade combined with several years of experience. The occupation of machinist is a designated apprenticeable trade in Nova Scotia. Individuals working at the supervisory or inspection level would generally be required to possess journeyperson certification.

### Training Paths

For more information on training in the machinist trade, consult the occupational group of Machinists. Three to five years of additional work experience is usually required to find employment as a supervisor or inspector.

### Skills and Aptitudes

Individuals entering these occupations should be mechanically inclined, have a sound knowledge of machines, and be familiar with machining techniques and the properties of metal. Effective communication and supervisory skills are essential. Physical fitness may also be important.

### Job Prospects

Individuals employed in these occupations mainly work in metal fabricating industries, as well as in various manufacturing industries such as aircraft and parts, motor vehicles and parts, and rubber. Smaller numbers of jobs also exist in Government and in industries engaged in wholesale and retail trade. A large number of small-sized metal fabricating firms are scattered across the Province. Economic conditions and developments, such as free trade, may affect the number of employment opportunities. Job opportunities for machinists change with economic conditions. When fewer machined goods are needed, such as during a recession, machinists involved in production may be laid off or have fewer hours of work. Machinists involved in plant maintenance often have more stable jobs because proper maintenance and the repair of costly equipment is necessary even when production levels fall.

### For Further Information

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

International Association of Machinists
and Aerospace Workers
100 Metcalfe Street, Ste. 300
Ottawa, Ontario
K1P 5M1

# *Metal processing supervisors and inspectors*

**Typical Occupations**

casting-room supervisor
extruding supervisor
foundry supervisor
heat-treating inspector
steel inspector

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers engaged in metal processing to make semi-finished or finished metal parts or products, and may involve ensuring conformity with customer drawings and specifications. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control. Individuals are also responsible for the efficient staffing of production processes to improve productivity while maintaining defined product quality.

**Requirements**

For individuals in these occupations, previous related work experience is essential, particularly in blueprint reading and the interpretation of a variety of measuring devices.

**Training Paths**

Training in this field is generally on the job. In Nova Scotia, an individual must be at least sixteen years old and have completed the tenth grade. Individuals in these occupations must be proficient in the use of all related machinery. This usually requires at least three to five years of experience in a related junior position.

**Skills and Aptitudes**

Individuals entering these occupations should be mechanically inclined, have a sound knowledge of machines, and be familiar with metal processing techniques and the properties of metal. Effective communication and supervisory skills are essential. Physical fitness may also be important.

**Job Prospects**

Individuals in these occupations are primarily employed in the steel industry in Cape Breton. The major producer in this industry (Sysco) has recently completed a modernization program in an attempt to ensure its economic viability. However, uncertainties associated with marketing the products of the steel mill and with the profitability of the enterprise remain. This casts some doubt on employment prospects in these occupations.

**For Further Information**

Trenton Works Lavalin
P.O. Box 130
Trenton, Nova Scotia
B0K 1X0

Metal Working Association of
New Brunswick
236 St. George Street, Ste. 312
Moncton, New Brunswick
E1C 1W1

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **150**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$40,000**

# *Motor vehicle mechanics*

**Typical Occupations**
auto mechanic
body repairer
brake specialist
engine mechanic
snowmobile mechanic

**Nature of the Work**
There are a number of occupations within this group, three of which are the designated apprenticeable trades of motor vehicle mechanic, bus and transport mechanic and motor vehicle body repair mechanic. Motor vehicle mechanics and bus and transport mechanics are concerned with repairing and servicing gasoline-powered or diesel-powered motor vehicles. Activities may include testing, diagnosing, disassembling and replacing parts and assemblies using common or special hand and power tools, machines and equipment. Motor vehicle body repair mechanics are involved in repairing damaged body parts and assemblies and the interior finishings of automotive vehicles. Usually protective clothing, goggles and safety boots must be worn.

**Requirements**
The occupations of motor vehicle mechanic and bus and transport mechanic are compulsory certified apprenticeable trades, and individuals obtaining employment in these occupations must register with the Apprenticeship Section of the Department of Advanced Education and Job Training. The occupation of motor vehicle body repair mechanic does not have compulsory certification; however, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**
There are several entry paths into these occupations. Individuals may receive basic training through one of several campuses of the Nova Scotia Community College or the University College of Cape Breton. These programs are generally two years in length. Individuals may also seek employment directly with an employer and proceed through the block release program. As a third option, individuals seeking training in the motor vehicle mechanic trade may make application through their local Canada Employment Centre for a pre-employment course held at the University College of Cape Breton. Individuals obtaining employment in this trade should register with the Apprenticeship Section to receive credit for their training and experience. Typically, individuals in these trades have completed the tenth grade. The term of apprenticeship is generally four years.

**Skills and Aptitudes**
Individuals in these trades should have practical skills, a mechanical aptitude, and patience. A good understanding of the specifications and underlying principles of automotive vehicle construction and operation is necessary. It is also important to keep up with the constant changes in repair techniques and applications.

**Job Prospects**
These tradespeople are primarily employed in service stations and other vehicle repair shops in retail trade. Others are employed in repair shops of trucking firms and transit companies. Most persons who enter the occupation may expect steady work because changes in economic conditions have little effect on the automotive repair business.

The growing complexity of automotive technology, such as the use of electronic and emissions control equipment, requires workers to keep their skills up-to-date.

The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **4,760**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **200**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$24,000**

# Oil burner installers and repairers

**Typical Occupations**
heating system mechanic
oil burner mechanic

**Nature of the Work**
This occupational group is concerned with the installation, maintenance and repair of oil burners in furnaces used to heat commercial and residential buildings. Duties may include performing combustion tests, repairing faulty burners, and performing various preventative maintenance procedures.

**Requirements**
The occupation of oil burner installer is a designated apprenticeable trade with compulsory certification.

**Training Paths**
There are two entry paths into the oil burner trade. Individuals may enrol in the Oil Burner Service program at the Halifax Campus of the Nova Scotia Community College or they may seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in this trade must register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in this trade have completed the tenth grade. The term of apprenticeship is three years.

**Skills and Aptitudes**
Individuals in this occupation should be in good physical condition and possess an aptitude for mathematics.

**Job Prospects**
Oil burner installers and repairers are employed primarily in construction industries. As seasonal and business conditions influence the amount of construction activity, the number of job openings for these workers will also be affected. However, the demand for servicing and repairing of oil burners should remain stable.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **1,560**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **170**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$28,000**

# Other mechanics and repairers

**Typical Occupations**
- bicycle mechanic
- gun repairer
- locksmith
- stove repairer
- vending machine mechanic

**Nature of the Work**
This group includes occupations concerned with repairing, adjusting, servicing and installing machines or equipment primarily of a mechanical nature. Knowledge of a specific machine is normally required. Individuals in these occupations may be exposed to noise and vibration. Some shiftwork may be required.

**Requirements**
The specific entrance requirements for these occupations vary widely depending on the area of specialization. However, some type of mechanical repair course would be beneficial. While certification is not compulsory, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**
There are three possibilities in the Province for this type of training. The first is in the area of Small Gas Engine Repair. This program is offered at several campuses of the Nova Scotia Community College. It generally requires completion of at least the tenth grade for admission. The other two options are Motor Vehicle Repair and Heavy Duty Equipment Repair, which are offered at most campuses of the Nova Scotia Community College and the University College of Cape Breton. The length of the classroom training is usually two years and is combined with an additional two years of on-the-job training.

**Skills and Aptitudes**
It is essential that individuals in these occupations enjoy working with engines and motors. It is important to be both electrically and mechanically inclined. The ability to work well with others and to follow instructions closely are also necessary.

**Job Prospects**
Employment may be found in a number of industries, including wholesale and retail trade, construction, transportation and other services. Complex equipment and new technology will require workers to keep up-to-date. The increasing use of business equipment, such as computers and photocopiers, may call for an increased number of workers in this occupation.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **640**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$28,000**

# Painters

**Nature of the Work**
This occupational group is concerned with applying paint and related materials to the interior and exterior of buildings and other structures, applying wallpaper and fabrics to walls and ceilings, and posting advertising bills. Other activities include determining the quantity of materials needed, removing old paint and paper and smoothing surfaces.

**Requirements**
There are no formal training requirements for painters.

**Training Paths**
Training is usually provided on the job in this occupation; however, individuals may apply for a one-year program entitled Painting and Wood Finishing offered at the Halifax Campus of the Nova Scotia Community College. This program requires completion of the tenth grade for entrance.

**Skills and Aptitudes**
Individuals in this trade should have patience and an eye for detail. An artistic ability is a definite asset.

**Job Prospects**
Painters rely primarily upon the construction industry for employment, which makes them vulnerable to downturns in the economy. Painters may experience periods of unemployment because of the short duration of many construction projects and the cyclical and seasonal nature of construction activity. However, remodelling, restorations, and maintenance projects provide many jobs for painters even when construction activity declines. Experience could be a definite asset, especially with the flood of inexperienced, low-wage student painters during the summer months.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **1,390**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **120**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$24,000**

# *Pipefitters, plumbers, and sprinklerfitters*

**Nature of the Work**

This occupational group includes occupations concerned with installing and repairing pipelines, plumbing, fire protection equipment and related equipment for distributing water, gas, steam, sewage or other materials. Plumbers install, repair and maintain pipes, fixtures and other plumbing equipment used for water distribution and waste water disposal in residential, commercial and industrial buildings. Sprinklerfitters assemble, install, test and maintain pressure pipeline systems to supply water, foam, gases or other substances for the purpose of extinguishing and preventing fires. Steamfitters/pipefitters lay out, fabricate, install and maintain high and low pressure piping systems to conduct steam, water, oil and other liquids and gases used in heating, cooling and lubricating.

**Requirements**

There are a number of occupations within this group, three of which are the designated apprenticeable trades of plumber, sprinklerfitter, and steamfitter/pipefitter. A plumber must be certified. While the occupations of steamfitter/pipefitter and sprinklerfitter need not be certified, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **1,210**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **60**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$32,000**

**Training Paths**

To enter into the occupations of plumber and steamfitter/pipefitter, individuals may receive basic training through a one- or two-year program offered at several campuses of the Nova Scotia Community College. An alternative for individuals wishing to enter either the plumbing, steamfitting/pipefitting, or sprinklerfitting trade is to seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in these trades should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in these trades have completed the tenth grade. The term of apprenticeship is typically four years.

**Skills and Aptitudes**

Individuals in these trades should have the ability to climb, stoop and work in cramped and awkward conditions. Other important characteristics include manual dexterity, coordination, a methodical approach to work and the ability to plan ahead.

**Job Prospects**

Most of the people working in these occupations are employed in the construction industry. Outside construction, a small percentage are employed in manufacturing and service industries.

Because of the temporary nature of construction projects, plumbers and pipefitters may experience short periods of unemployment when the project on which they are working ends. Employment of these workers is generally less sensitive to changes in economic conditions than in some other construction trades. Maintenance and rehabilitation of existing piping systems provide jobs for many plumbers, pipefitters and sprinklerfitters, even when construction activity declines. Building renovation and maintenance of power plants, water and wastewater treatment plants, pipelines, office buildings, factories and other projects that have large pipe systems, as well as maintenance of existing residential systems, are also expected to spur the demand for these workers.

The majority of these workers are unionized, with the hourly wage specified in the collective agreement between the employer and the union. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program. Aside from site work, other opportunities may exist in administrative positions which can be higher paying.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

United Association of Journeymen
and Apprentices of the Plumbing
and Pipe Fitting Industry of the U.S.
and Canada
310 Broadway Avenue, Ste. 702
Winnipeg, Manitoba
R3C 0S6

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

Canadian Institute of Plumbing and Heating
Atlantic Region
P.O. Box 8116, Terminal "A"
Halifax, Nova Scotia
B3K 5L8

# *Precision instrument mechanics and repairers*

**Typical Occupations**
camera repairer
instrument specialist
scale mechanic
surgical instrument repairer

**Nature of the Work**
This occupational group is involved in installing and repairing engineering, scientific, and medical instruments and apparatus, and photographic, meteorological and similar equipment. Individuals may be required to install, repair, maintain, calibrate and tune automatic control instruments used in large industrial plants to measure, indicate and control such process variables as liquid flow, liquid level temperature, pressure, density and humidity.

**Requirements**
Training for these occupations is provided under the apprenticeable trade of industrial instrumentation. Certification is not compulsory; however, many employers require that their employees be registered apprentices or holders of Certificates of Qualification.

**Training Paths**
There are two entry paths into the industrial instrumentation occupation. Individuals may receive basic training through a two-year program offered at the I.W. Akerley Campus and the Strait Campus of the Nova Scotia Community College or they may seek employment directly with an employer and proceed through the block release program. Block release training may be taken in either New Brunswick or Newfoundland. The University College of Cape Breton offers in-class training for apprentices. Individuals obtaining employment should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. Typically, individuals in this trade have completed the eleventh grade with strong standing in physics and mathematics. The term of apprenticeship is four years.

**Skills and Aptitudes**
Individuals should to have the ability to understand principles of electronics and mechanical operations. They are required to perform intricate work with their hands and must have good motor skills and manual dexterity.

**Job Prospects**
Workers in these occupations may be employed in any one of a number of industries, such as wholesale trade, pulp and paper, electric power, hospitals, construction and manufacturing.

**For Further Information**
Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **240**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$40,000**

# *Pulp and paper supervisors and inspectors*

**Typical Occupations**

paper inspector
pulp plant supervisor
pulp tester

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers involved in converting wood fibre into pulp, making newsprint and finishing paper and paperboard. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities and production.

**Requirements**

While there are no formal education requirements for individuals in these occupations, most employers have minimum entry education standards. Experience is the major requirement.

**Training Paths**

Training in this field is generally provided on the job. In Nova Scotia, a person should be at least sixteen years old and have completed the eleventh grade, although people with less education are sometimes accepted. The supervisor must have a thorough knowledge of the related machinery, tools, materials, and procedures, as well as a sound background in the pulp and paper industry. He/she must be capable of supervising staff and maintaining production schedules.

**Skills and Aptitudes**

Manual dexterity, stamina and a mechanical aptitude are important skills required in these occupations. Leadership and effective oral and written communication skills are essential, as well as the ability to work within a team environment.

**Job Prospects**

A number of factors will limit employment growth in pulp and paper industry over the next few years. Domestic supply constraints and weak international markets coupled with worldwide overcapacity in the pulp and paper industry have dampened optimism about prospects for this industry. In addition, environmental issues, including concerns about pollution and an increasing emphasis on recycling, constitute problems which must be faced by the industry in Nova Scotia.

**For Further Information**

Bowater Mersey Paper Company Limited
P.O. Box 1150
Liverpool, Nova Scotia
B0T 1K0

Scott Maritimes Limited
P.O. Box 549D
New Glasgow, Nova Scotia
B2H 5E8

Canadian Pulp and Paper Association
Sun Life Building
1155 Metcalfe Street, Ste. 1900
Montreal, Quebec
H3B 4T6

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **290**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$41,000**

# *Rubber and plastic products supervisors and inspectors*

**Typical Occupations**

fibreglass plastics supervisor
linoleum inspector
tire examiner
tire tester

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers engaged in fabricating, assembling and repairing rubber, plastic and related products. Responsibilities may include inspecting, testing, grading, and sampling work concerned with quality control activities.

**Requirements**

Previous experience is essential for individuals in these occupations.

**Training Paths**

Training in this field is generally provided on the job. In Nova Scotia, a person must be at least sixteen years of age and have completed the tenth grade, although people with less education are sometimes accepted. The supervisor must have a thorough knowledge of the related machinery, tools, materials and procedures, as well as a sound background in the rubber and/or plastics industry.

**Skills and Aptitudes**

Manual dexterity, stamina, a mechanical aptitude and experience with machinery and tools are important in these occupations. The ability to carry out exacting procedures repeatedly is also important. Supervisory and effective communication skills are essential.

**Job Prospects**

The vast majority of individuals in these occupations are employed in the manufacture of automobile tires.

The 1991-92 recession and the resultant weak demand for automobiles in North America have limited employment opportunities in these occupations. Over the longer term, however, modernization and expansion of the major firms in this sector should promote stability and possibly contribute to employment growth.

**For Further Information**

Rubber Association of Canada
89 Queensway West, Ste. 308
Mississauga, Ontario
L5B 2V2

Society of the Plastics Industry of Canada
1262 Don Mills Road, Ste. 104
Don Mills, Ontario
M3B 2W7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **730**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **80**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$37,000**

# Sheet metal supervisors and inspectors

**Typical Occupations**
boiler tester
boilermaker supervisor
metal fabricating inspector
welding supervisor

**Nature of the Work**
This group includes occupations concerned with supervising and coordinating activities of workers engaged in shaping and forming metal parts and products by forging, cutting, rolling, pressing, bending, punching, shearing, welding, brazing, soldering, and balancing. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities in metal shaping, forming and welding.

**Requirements**
Individuals in these occupations typically have training in the sheet metal trade combined with several years of experience. The occupation of sheet metal worker is a designated apprenticeable trade in Nova Scotia. Individuals working at the supervisory or inspection level would generally be required to possess journeyperson certification.

**Training Paths**
For more information on training in the sheet metal trade, consult the appropriate occupational group in this handbook. At least three to five years of additional work experience are usually required to find employment as a supervisor or inspector.

**Skills and Aptitudes**
Individuals in this trade should have an interest and an aptitude for mathematics, geometric design, drafting, and blueprint reading, as well as the ability to work comfortably at heights. Supervisory and communication skills are essential.

**Job Prospects**
These individuals supervise welders, sheet metal workers, boilermakers and others. They are usually employed in construction and in various manufacturing industries (such as shipbuilding and metal fabrication), but may also find employment in the service sector.

Workers in the construction industry may experience periods of unemployment when construction projects end and when economic conditions reduce the amount of construction activity. Those employed in metal fabrication and other manufacturing activities are likely to be affected by changing technology.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Sheet Metal Workers International
Association Canadian Office
2742 St. Joseph Boulevard, Ste. 204
Orleans, Ontario
K1C 1G4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **220**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$40,000**

# *Sheet metal workers*

**Typical Occupations**

coppersmith
metal machine operator
sheet metal fabricator
sheet metal mechanic

**Nature of the Work**

This occupation is concerned with shaping, forming and repairing sheet metal parts or products to specified dimensions. Activities include drafting patterns, measuring, forging, cutting, riveting, shearing, welding, soldering and balancing.

**Requirements**

The occupation of sheet metal worker is a designated apprenticeable trade. While certification is not compulsory, many employers require that their employees be registered apprentices or holders of a Certificate of Qualification.

**Training Paths**

There are two entry paths into this occupation. Individuals may receive basic training through a one-year program offered at the Halifax and Sydney campuses of the Nova Scotia Community College or they may seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in this trade should register with the Apprenticeship Section of the Department of Advanced Education and Job Training to receive credit for their training and experience. The term of apprenticeship is typically four years.

**Skills and Aptitudes**

Individuals in this trade should have an interest and an aptitude for mathematics, geometric design, drafting, and blueprint reading, as well as the ability to work comfortably at heights.

**Job Prospects**

These workers are found mainly in construction industries, but are also found in metal fabricating, and aircraft and parts manufacturing industries. Demand for sheet metal installation should increase as more commercial, industrial and residential structures are built. Growing demand for more energy-efficient air conditioning, heating, and ventilation systems in existing buildings and other types of renovations and maintenance work also boost employment opportunities.

Job prospects should be favourable over the long run, although workers may experience periods of unemployment when construction projects end and when economic conditions reduce construction activity. Maintenance of equipment, which is less affected by economic fluctuations than new construction, makes up a large part of work done by sheet metal workers. Those employed in fabricating and manufacturing are likely to be affected by changing technology.

The majority of these workers are unionized, with the hourly wage specified in the collective agreement between the employer and the union. The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Sheet Metal Workers International
Association Canadian Office
2742 St. Joseph Boulevard, Ste. 204
Orleans, Ontario
K1C 1G4

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **380**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$34,000**

# Stationary engineering supervisors and inspectors

**Nature of the Work**
This occupation is concerned with supervising and coordinating activities of workers engaged in operating power stations, stationary engines and utilities equipment, water and sanitation utilities, and pumping and pipeline equipment.

**Requirements**
Individuals in these occupations typically have training as a stationary engineer combined with several years of experience. The occupation of stationary engineer is a designated apprenticeable trade in Nova Scotia. Individuals working at the supervisory or inspection level would generally be required to possess journeyperson certification.

**Training Paths**
For more information on training for a stationary engineer, consult the appropriate occupational group in this handbook. At least three to five years of additional work experience is usually required to find employment as a supervisor or inspector.

**Skills and Aptitudes**
Individuals in these occupations should possess a good mechanical aptitude and mathematical ability. Supervisory and communication skills are essential.

**Job Prospects**
These individuals supervise stationary engineers employed in organizations providing heat, power and telephone services, as well as in institutions such as hospitals, large manufacturing plants, and government. Changing technology has tended to limit job opportunities in this occupation.

**For Further Information**
Stationary Engineers Board
Occupational Health and Safety
Nova Scotia Department of Labour
P.O. Box 697
Halifax, Nova Scotia
B3J 2T8

Personnel Manager
Nova Scotia Power Corporation
P.O. Box 910
Halifax, Nova Scotia
B3J 2W5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **340**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$43,000**

# Stationary engineers

**Typical Occupations**
generating station operator
hydroelectric station operator
power station operator
steam plant operator
turbine engineer

**Nature of the Work**
This group includes occupations such as power station operator and stationary engineer. Power station operators are concerned with controlling equipment in power plants to generate electricity utilizing thermal, hydro, internal combustion or atomic power sources. Stationary engineers are involved in the safe and efficient operation and maintenance of the following classes of industrial machinery: (a) boilers and auxiliary equipment used to mass produce steam for heating, process operation, and power production; (b) compressors and auxiliary equipment used to produce medical or industrial air, and refrigeration and air conditioning of buildings; and (c) mobile cranes, overhead travelling cranes and tower cranes. Individuals in these occupations are often involved in shiftwork.

**Requirements**
There are a number of occupations within this group, one of which is the designated apprenticeable trade of stationary engineer. Certification is compulsory, therefore individuals are required to be registered apprentices or holders of Certificates of Qualification. The Stationary Engineer's (fourth class) Certificate of Qualification is also required for employment as a power station operator.

**Training Paths**
There are several entry paths into the stationary engineer occupation. Individuals may receive basic training through a one- or two-year program offered at several campuses of the Province's Community College. Individuals may also make application through their Canada Employment Centre for a pre-employment course held at the Strait Campus and the Cape Breton Adult Vocational Training Campus of the Nova Scotia Community College. As a third option, individuals may seek employment directly with an employer and proceed through the block release program. Individuals obtaining employment in this trade are required to register with the Department of Labour in order to receive credit for their training and experience. Typically, individuals in this trade have completed the eleventh grade, and they should have a good understanding of physics and mathematics. The term of apprenticeship for this trade is generally four years.

**Skills and Aptitudes**
Individuals in these occupations should possess a good mechanical aptitude and mathematical ability. Verbal communication skills and the ability to work with minimal supervision are important.

**Job Prospects**
Stationary engineers are employed in organizations providing heat, power and telephone services, as well as in institutions such as hospitals, large manufacturing plants, and government. Most job openings will occur as a result of the retirements, deaths and job changes of existing workers. Changing technology and economic conditions will affect job opportunities in this occupation.

The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**
Stationary Engineers Board
Occupational Health and Safety
Nova Scotia Department of Labour
P.O. Box 697
Halifax, Nova Scotia
B3J 2T8

Personnel Manager
Nova Scotia Power Corporation
P.O. Box 910
Halifax, Nova Scotia
B3J 2W5

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
* Estimated employment in 1990: **1,360**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **80**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$37,000**

# *Structural metal erectors*

**Typical Occupations**
ironworker
ornamental ironworker
structural steel erector

**Nature of the Work**

This occupational group is involved with raising, positioning, joining and servicing prefabricated structural-metal parts and subassemblies by bolting, screwing, riveting or welding. Duties may involve building, assembling, and installing ornamental, recreational and functional metal and ironwork structures; erecting metal tanks to store liquids and loose materials; and building scaffolding to make frameworks in and around structures such as buildings and industrial sites from which workers may perform duties.

**Requirements**

There are no formal entrance requirements for entry into this occupation other than a minimum age of sixteen years.

**Training Paths**

To gain experience in this occupation individuals must seek related employment and receive on-the-job training under the supervision of a more experienced employee.

**Skills and Aptitudes**

Individuals in this occupation should enjoy working outdoors, sometimes at heights, and be able to work under exposure to noise and vibration. Physical strength and manual dexterity are also required.

**Job Prospects**

Construction industries are the primary employers of structural metal erectors. The number of job openings fluctuate from year to year as economic conditions and the level of construction activity change. Job openings for these workers are usually more abundant during the spring and summer months, when the level of construction activity increases. Interested individuals should be aware that construction activity can be easily reduced since it is extremely sensitive to business conditions. Technology will force workers to keep up-to-date with new techniques, equipment, and materials.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **200**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$31,000**

# *Tailors and dressmakers*

**Nature of the Work**
This occupational group is concerned with making, altering, and repairing complete items of made-to-measure garments, such as suits and dresses, and performing the more difficult tasks in the manufacture of ready-to-wear garments. Activities may include sewing sample garments for new designs according to pattern specifications, and fitting and altering made-to-measure foundation garments, such as girdles and corsets, according to customer's measurements and tastes.

**Requirements**
While there are no formal requirements to work in these occupations, a degree in home economics would enhance employment prospects in the manufacturing field.

**Training Paths**
Training in this field is available at Mount Saint Vincent University, which offers a four-year Bachelor of Home Economics degree with a major in Clothing and Textiles. This program requires successful completion of the twelfth grade for admission.

**Skills and Aptitudes**
Individuals in these occupations need good eyesight and a liking for fine, close work which may be very detailed and intricate. While artistic imagination and craft skills to turn an idea into a garment are important, it is equally necessary that individuals be prepared to adapt their ideas to the tastes of others. The ability to follow directions closely and accept instructions from both clients and supervisors is also required.

**Job Prospects**
Tailors and dressmakers are employed in retail stores that provide altering and dressmaking services. Clothing manufacturers also employ a small number of these workers. Self-employment may be another option open to some individuals trained in this profession. In general, employment for tailors and dressmakers appears to be fairly stable.

**For Further Information**
Canadian Apparel Manufacturers Institute
116 Albert Street, Ste. 803
Ottawa, Ontario
K1P 5G3

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **220**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$12,000**

# *Textile processing supervisors and inspectors*

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **230**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$23,000**

**Typical Occupations**

bleaching supervisor
carpet inspector
cloth examiner
fabric grader
yarn tester

**Nature of the Work**

This occupational group is concerned with supervising and coordinating the activities of workers involved in processing textile fibres into yarn or thread; and weaving, knitting and finishing fabrics. Responsibilities may include inspecting, testing, grading, and sampling work concerned with quality control activities.

**Requirements**

Previous experience is essential for individuals in these occupations. In Nova Scotia, a person generally must be sixteen years of age and have completed the tenth grade, although people with less education are sometimes accepted. Individuals in these occupations must learn specific duties and processes, depending upon the materials being processed. The supervisor must have a thorough knowledge of various textiles and fabrics, experience in production and maintaining production schedules, and knowledge of the capabilities and functions of all related machinery utilized in the specific operations.

**Training Paths**

Training in this field is generally provided on the job.

**Skills and Aptitudes**

Individuals in these occupations must have stamina and be capable of standing for long periods of time. They must be methodical and have good hand to eye coordination. Supervisory and effective communication skills are essential.

**Job Prospects**

Employment prospects in the manufacturing of textiles and clothing are likely to be limited over the next few years as a result of international competitive pressures and the recent closing of one of the larger manufacturing facilities of this kind in the Province.

**For Further Information**

Stanfield's Limited
Logan Street
Truro, Nova Scotia
B2N 5C2

Nova Scotia Textiles Limited
Nesbitt Street
P.O. Box 970
Windsor, Nova Scotia
B0N 2T0

Canadian Textiles Institute
280 Albert Street, Ste. 502
Ottawa, Ontario
K1P 5G8

# Tool and die makers

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **50**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

**Nature of the Work**

This occupational group is involved in constructing, repairing, and testing custom-made, prototype, or special tools, dies, jigs, fixtures and gauges within specific dimensions. Duties may include laying out work pieces, performing mathematical computations, assembling and positioning work pieces and machines, operating machine tools, reading mechanical drawings, heat treating parts, hand-fitting, and finishing work to specifications. There may be exposure to heat, noise, vibration, dust, and odours within the working environment.

**Requirements**

While this occupation is a designated apprenticeable trade in Nova Scotia, all of the apprenticeship training takes place on the job. At the appropriate time, a journeyperson's examination is administered.

**Training Paths**

The only direct method of training for this occupation in Nova Scotia is through on-the-job training under the supervision of a more experienced employee. While employment may be obtained with less education, employers typically require that new employees have completed the eleventh grade. Training may take up to three or four years. Several campuses of the Nova Scotia Community College offer training for machinists. Theory training in this program may assist individuals in obtaining employment as tool and die makers. For more detailed information on machinists, see the occupational description in this handbook.

**Skills and Aptitudes**

Individuals in this occupation should have an interest in working with machines and precision techniques and processes. Manual dexterity is necessary, as is the ability to perform mathematical functions.

**Job Prospects**

Tool and die makers are generally employed by large manufacturing plants. Although employment is primarily in the aircraft and parts manufacturing industry. Employment can also be found at other large manufacturing plants throughout the Province. There is a shortage of these workers in other provinces. Increasing specialization in companies could increase the demand for firm-specific tools and other equipment, thus leading to more job opportunities for these workers.

Employment of tool and die makers is less sensitive to fluctuations in the business cycle than many other production occupations. Because these workers are highly skilled and not easily replaced, employers are reluctant to lay them off, even when production is cut back.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Canadian Tooling Manufacturers
Association
1425 Bishop Street, Units 8 & 9
Cambridge, Ontario
N1R 6J9

Cape Breton Precision Components
53 Memorial Drive
P.O. Box 247
North Sydney, Nova Scotia
B2A 3M3

# *Wall and ceiling installers*

**Typical Occupations**
drywall installer
lather
plasterer
stucco plasterer
wood lather

**Nature of the Work**
This occupational group is concerned with the erection of steel stud walls and partitions, architectural bulkheads, mountable and demountable partitions and the application of drywall to them, access (computer) flooring, suspended drywall and acoustical ceilings and paraline and magnagrid ceiling systems, exterior insulated wall systems, and gypsum products, including column covers and cornices, exterior and interior application.

**Requirements**
There are currently no formal entrance requirements for this occupation.

**Training Paths**
The Dartmouth Adult Vocational Training Campus offers a program in Drywall Construction requiring completion of the twelfth grade for entrance. The course is five months in length plus a work placement. The only other method of training for this occupation in Nova Scotia is through on-the-job training under the supervision of an experienced employee.

**Skills and Aptitudes**
Individuals in this trade should be in good physical condition. They are required to work at varying heights from staging. The ability to work from blueprints is important and some artistic ability would be an asset. Organizational and management skills would be helpful for promotion to positions such as foreperson and onsite supervisor.

**Job Prospects**
Most drywallers work in construction, where job prospects change from year to year due to changing economic conditions. Bad weather conditions affect drywalling less than other construction trades because most work is indoors. The demand for these workers will be influenced by the level of business activity and the amount of construction activity during seasons of the year. The physical demands make it difficult for older workers to stay in this occupation.

The majority of these workers are unionized, with the hourly wage specified in the collective agreement between the union and the employer.

**For Further Information**
Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
* Estimated employment in 1990: **380**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$29,000**

# Watch and clock repairers

**Typical Occupations**
meter mechanic
speedometer repairer
time-clock repairer

**Nature of the Work**
This occupational group is concerned with repairing, cleaning and adjusting watches, clocks and mechanical movements used in clockwork-operated devices, such as timers, meters and recorders.

**Requirements**
There are no formal training or certification requirements for entrance into this occupation.

**Training Paths**
Individuals entering this occupation typically receive training on the job. In some cases, employees may require knowledge of electronics.

**Skills and Aptitudes**
Individuals interested in this occupation should enjoy working with intricate mechanical and electronic parts.

**Job Prospects**
These workers are employed in watch and clock repairing shops in retail trade. With the shift from mechanical to more reliable electronic components, changing technology may limit the number of new job openings.

**For Further Information**
Consult a local watch and clock repairer.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **80**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$24,000**

# Welders

**Typical Occupations**
aircraft welder
gas welder
precision welder

**Nature of the Work**
This occupational group is concerned with joining, surfacing, cutting, or otherwise fabricating and repairing ferrous and non-ferrous metal parts and structures using welding and cutting equipment. Welders may be required to work in cramped, awkward places. Shiftwork is common in this trade.

**Requirements**
This occupation is a designated apprenticeable trade in Nova Scotia; however, certification is not compulsory. Completion of a welding course is highly recommended.

**Training Paths**
There are several entry paths into this occupation. Individuals may receive basic training through a one- or two-year program offered at several campuses of the Nova Scotia Community College. Individuals may also seek employment directly with an employer and receive on-the-job training. Typically, individuals in this trade have completed the tenth grade.

**Skills and Aptitudes**
Individuals in this trade should enjoy working with their hands, possess good eye to hand coordination and physical strength, and be able to concentrate over extended periods of time. The ability to perform mathematical computations is helpful.

**Job Prospects**
Although most jobs for welders are in metal fabricating industries, many are also employed in a variety of other industries including construction, manufacturing, repairing services, and wholesale trade. Most job openings for welders will result from replacement of existing jobs due to retirements, deaths and job changes. Employment may be affected by business conditions.

The wage rate for apprentices is usually a percentage of the journeyperson rate, increasing upon completion of each stage of the apprenticeship program.

**For Further Information**

Industrial Training Services
Apprenticeship Section
Department of Advanced Education
and Job Training
P.O. Box 2086, Station "M"
Halifax, Nova Scotia
B3J 3B7

Canadian Welding Bureau
Atlantic Region
73 Tacoma Drive, 3rd Floor
Dartmouth, Nova Scotia
B2W 3Y6

Welding Institute of Canada
Nova Scotia Chapter
c/o TUNS
P.O. Box 1000
Halifax, Nova Scotia
B3J 2X4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,980**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **170**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$31,000**

# *Wood products and processing supervisors and inspectors*

**Typical Occupations**
cabinet making supervisor
furniture inspector
lumber grading supervisor
lumber inspector
sanding inspector

**Nature of the Work**
This occupational group is concerned with supervising and coordinating the activities of workers involved in sawing and preparing lumber and related materials for use; shaping wood into parts or products by machining; and treating wood with preservatives and fire-retardants. Responsibilities may include inspecting, testing, grading and sampling work concerned with quality control activities in wood processing, except in pulp and paper making.

**Requirements**
Previous related experience is essential for individuals in these occupations.

**Training Paths**
Training in this field is generally provided on the job. In Nova Scotia, a person must be sixteen years of age and have completed the eleventh grade, although people with less education are sometimes accepted. The supervisor must have a thorough knowledge of the related machinery and tools, as well as a sound background in the properties of materials being processed and the procedures to be utilized. He/she must be capable of supervising staff and maintaining production schedules. Individuals wishing to advance in this field should consider additional training at the Nova Scotia Agricultural College, the Nova Scotia Community College or at other institutions listed under the occupation entitled Foresters in this handbook.

**Skills and Aptitudes**
Manual dexterity, stamina, and a mechanical aptitude are important in these occupations. Supervisory and effective communication skills are essential.

**Job Prospects**
Individuals in this occupational group supervise workers engaged in the processing of lumber and in the production of furniture and other wood products. Domestic supply constraints, reduced construction activity during the 1991-92 recession, and European demands that lumber entering their markets be kiln-dried have helped to dampen optimism about prospects for this industry.

**For Further Information**
Industrial Relations Manager
Bowater Mersey Paper Company Limited
P.O. Box 1150
Liverpool, Nova Scotia
B0T 1K0

Scott Maritimes Limited
P.O. Box 549D
New Glasgow, Nova Scotia
B2H 5E8

Nova Scotia Forest Products Association
P.O. Box 696
Truro, Nova Scotia
B2N 5E5

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
- Estimated employment in 1990: **210**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$27,000**

# Clerical Occupations

# *Clerical occupations, general*

**Typical Occupations**
bookkeeper
claims adjuster
data entry clerk
library clerk
telephone operator

**Nature of the Work**
This group involves occupations concerned with performing duties of a clerical nature. Activities may include bookkeeping; accounting; classifying and recording information; transferring data into accounts and records; paying and receiving money; examining orders for goods and services; making appointments; and receiving clients and customers.

**Requirements**
Individuals considering a career in these occupations are generally required to have received training in areas such as bookkeeping and office procedures. Typing skills are also an asset.

**Training Paths**
Programs and short courses in bookkeeping, general business and accounting are available at several campuses of the Nova Scotia Community College and at private trade schools in the Province. These courses vary in length from six months to two years. The eleventh grade is generally required for admission. Some occupations within this group, however, require no additional education beyond high school and training is provided on the job.

**Skills and Aptitudes**
Individuals in these occupations should have an aptitude for working with numbers and/or handling cash, have the ability to perform repetitive tasks, and be knowledgeable about computers and other automated office machinery. They should also be cooperative and able to work as part of a team.

**Job Prospects**
Workers in this occupational group find employment across most sectors of the economy. This range of employers allows workers flexibility in choosing the type of organization and the location in which they wish to work. Job openings for these workers may rise as the labour force grows and as more workers are employed in offices. Because automated equipment cannot substitute for the personal skills that are essential to the job, the need for these workers will continue.

Earnings for these workers will depend upon the individual's qualifications, job title, location and the industry of employment.

**For Further Information**
Professional Secretaries International
Halifax-Dartmouth Chapter
P.O. Box 792, Station "M"
Halifax, Nova Scotia
B3J 2V2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **37,620**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **4,110**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$23,000**

# *Clerical occupations, typing specialty*

**Typical Occupations**

clerk-typist
legal secretary
medical secretary
secretary
typist

**Nature of the Work**

This occupational group combines occupations of different skill levels: secretary/stenographer and typist/clerk-typist. Secretaries perform various administrative details and coordinate and maintain effective office procedures and efficient work flow. Activities may include scheduling appointments and maintaining a calendar, answering telephone calls, recording minutes, transcribing, answering correspondence, ordering office supplies, maintaining files and record management systems, as well as preparing and managing budgets, expense accounts and financial records. The tasks of a clerk-typist are fairly routine and repetitive. These individuals are concerned mainly with the processing of text as well as filing, sorting mail, answering telephones, and other general office work under direct supervision. Work performed in these occupations can produce back and neck strain due to sitting for long periods of time as well as eye strain from video display terminals. These workers generally work a standard 40-hour week.

**Requirements**

Individuals entering these occupations are generally required to have received formal secretarial training including training in business English, typing, accounting and office procedures.

**Training Paths**

There are numerous training programs and short courses offered in Nova Scotia through private trade schools, local Canada Employment Centres, and the Nova Scotia Community College. These courses are listed under a variety of names, such as Clerk-Typist, Data Processing, Stenography, Secretarial, Word Processing, Legal Secretarial, and Business Education. These can vary in length from several weeks to two years depending on the number of topics covered and the certification offered. The emphasis in many cases will be on the use of computers in word processing and office automation. Completion of the tenth grade is generally required for entry. A three-year Bachelor's degree program in Secretarial Science is offered at the University College of Cape Breton. Generally, completion of the twelfth grade is required for admission. Also requiring completion of the twelfth grade are the programs in Office Administration at Mount Saint Vincent University. These programs are offered at both the degree and diploma level with executive, legal and medical specialties at the diploma level.

**Skills and Aptitudes**

The necessary skills required include an accurate and fast typing speed; grammar, composition and communication skills; and a working knowledge of computers, word processing software and general office equipment.

**Job Prospects**

Secretaries are employed in organizations of every description. Demand for secretaries will rise as the labour force grows and as more workers are employed in offices. Developments in office technology are certain to continue; therefore, clerical staff are often required to keep up to date with computers and other office equipment, as they will bring about further changes in the secretary's work environment. However, many duties of a secretary are administrative in nature, such as scheduling conferences, making travel arrangements and transmitting staff instructions, and hence cannot be replaced by technology. Because automated equipment cannot substitute for the personal skills that are essential to the job, the need for secretaries will continue.

Earnings will vary depending upon the specific occupation, industry, and qualifications of the individual.

**For Further Information**

Professional Secretaries International
Halifax-Dartmouth Chapter
P.O. Box 792, Station "M"
Halifax, Nova Scotia
B3J 2V2

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

| | |
|---|---|
| * Estimated employment in 1990: | **12,950** |
| * Employment growth between 1990 and 1996 is projected to be: | **Below Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **950** |

**Unemployment**

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$21,000** |

# Clerical supervisors

**Typical Occupations**
head bank teller
library clerk supervisor
office manager
scheduling clerk supervisor
typing supervisor

**Nature of the Work**
This group includes occupations concerned with supervising and coordinating the activities of workers engaged in recording, transcribing and typing dictated or prepared material; bookkeeping; accounting; operating office machines and electronic data-processing equipment; material recording, scheduling and distributing; classifying and filing publications or correspondence; receiving clients; operating telephone switchboards; and other clerical-related activities.

**Requirements**
The specific entrance requirements for these occupations vary widely depending on the area of specialization. However, a clerical-related course would be beneficial. Individuals in these occupations typically have training in a related field and several years experience before securing employment.

**Training Paths**
There are various training programs offered through the Nova Scotia Community College, universities and private training institutions throughout the Province. For further information regarding specific occupations, consult the relevant occupational group in this handbook. An additional three to five years of work experience is generally required for employment as a supervisor.

**Skills and Aptitudes**
As there are many occupations within this group, the skills and aptitudes vary widely. Generally, individuals in a supervisory position should have a thorough knowledge of the activities of those supervised and the machines used. Supervisory and communication skills are essential.

**Job Prospects**
Workers in this occupational group find employment across most industries in Nova Scotia. This range of employers allows workers flexibility in choosing the type of organization and the location in which they wish to work. Job openings for these workers may increase as the labour force grows and as more workers are employed in offices.

Developments in office technology are certain to continue, and they will bring about further changes in the secretary's work environment. However, many duties of a secretary are administrative in nature, such as scheduling conferences, making travel arrangements and transmitting staff instructions, and hence cannot be replaced by technology. Because automated equipment cannot substitute for the personal skills that are essential to the job, the need for secretaries will continue.

**For Further Information**
Professional Secretaries International
Halifax-Dartmouth Chapter
P.O. Box 792, Station "M"
Halifax, Nova Scotia
B3J 2V2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **3,050**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **300**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$29,000**

# Sports-Related Occupations

# *Sport[illegible]ccupations*

### NOVA [illegible]
### [illegible] CONDITIONS

**Employment**

* Estimated employment in 1990: **1,060**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **160**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$29,000**

**Typical Occupations**

athlete
athletic trainer
golf instructor
hockey coach
referee

**Nature of the Work**

This occupational group is concerned with administering and directing provincial sport and recreation programs which may also involve managing, coaching, refereeing, training and instructing athletes for team sports, both competitive and recreational. Activities may include negotiating contracts and sponsorships with the corporate sector, advertising, and arranging involvement in sports events.

**Requirements**

While there are no formal requirements for individuals in these occupations, several years of working experience combined with a university degree in the field is strongly recommended.

**Training Paths**

Individuals interested in obtaining an administrative position in this field should obtain a Bachelor's degree in either Physical Education, Recreation or Leisure Studies. These programs are offered at several universities throughout the Province. The programs are three to four years in length and require successful completion of the twelfth grade for entry. Saint Mary's University offers six courses leading to a Certificate in Arena Management. Coaches and instructors must have an exceptional knowledge of their sport which is usually gained through years of experience as a participant.

**Skills and Aptitudes**

Skills required for success in these occupations include determination, perseverance, courage, and self-confidence. Also important is the ability to motivate and encourage others to perform to the best of their abilities. Communication skills, both verbal and written, are essential for teaching and instructing others. A knowledge of non-profit and volunteer sectors is helpful.

**Job Prospects**

Individuals in these occupations are employed in the recreational services industry, in the recreational service departments of local government, and in education.

Population growth and rising family and personal incomes contribute to increased demand for the products of these industries, and therefore to increases in employment in these occupations.

**For Further Information**

Sport Nova Scotia
P.O. Box 3010
Halifax, Nova Scotia
B3J 3G6

# Professional Sales Occupations

# Professional sales supervisors

**Typical Occupations**
antique dealer
auto rental supervisor
car dealer
stockbroking supervisor

**Nature of the Work**
This occupational group is concerned with supervising and coordinating, directly or indirectly, the activities of workers engaged in professional sales. These activities may involve selling commodities and services such as real estate, insurance, business services, or technical equipment; and conducting wholesale or retail businesses. Some occupations in this group necessarily involve a considerable amount of time in travel. Weekend and evening work may be required to meet the needs of customers.

**Requirements**
While specific entrance requirements exist for only some of the occupations in this group, depending on the type of product or service being sold by the sales workers, work experience is generally required for all supervisory positions.

**Training Paths**
For more information on training in commodity and service sales positions, consult the occupational description entitled Professional Sales Workers in this handbook. At least one to five years of additional work experience is generally required for employment as a supervisor or inspector.

**Skills and Aptitudes**
Individuals in these occupations should have excellent interpersonal and communication skills. They should always be alert to the customer's needs and be as helpful and efficient as possible. Supervisors must be organized, innovative, and able to troubleshoot as necessary. Public speaking ability may be required. Motivational and leadership skills are essential.

**Job Prospects**
Although employment can be found in a wide range of industries, the majority of jobs are in retail trade, wholesale trade, and the finance, insurance, and real estate industries. The level of employment in these occupations is affected by economic conditions. Technology is another important factor as the development of new products will require sales promotion and marketing services. Workers in these occupations must constantly stay up to date with new products and services available to their clientele.

Annual earnings will vary according to the product being sold, industry, location of work, qualifications of the individual, and percentage of commissions from sales. Earnings in some jobs are based totally on commission.

**For Further Information**
Association of Canadian Advertisers Inc.
180 Bloor Street West, Ste. 803
Toronto, Ontario
M5S 2V6

Insurance Institute of Nova Scotia
1660 Hollis Street, Ste. 803
P.O. Box 1561
Halifax, Nova Scotia
B3J 2Y3

Canadian Securities Institute
33 Yonge Street, Ste. 360
Toronto, Ontario
M5E 1G4

Nova Scotia Real Estate Association
7 Scarfe Court
Burnside Industrial Park
Dartmouth, Nova Scotia
B3B 1W4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **3,600**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **110**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$31,000**

# Professional sales workers

**Typical Occupations**
advertising sales representative
insurance salesperson
pharmaceutical representative
real estate agent
stockbroker

**Nature of the Work**
This occupational group includes a wide variety of occupations concerned with professional sales activities. Duties may include selling commodities and services such as real estate, insurance, business services, or technical equipment; and conducting wholesale or retail businesses. Some occupations in this group necessarily involve a considerable amount of time in travel. Weekend and evening work may be required to meet the needs of customers.

**Requirements**
Specific entrance requirements exist for only some of the occupations in this group and depend on the type of product or service being sold. For many of these occupations, training may take place on the job after gaining employment. Salespeople must have a thorough knowledge of the product or service they are selling.

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
- Estimated employment in 1990: **7,510**
- Employment growth between 1990 and 1996 is projected to be: **Above Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **660**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$35,000**

**Training Paths**
Due to the wide diversity of products and services covered by these occupations, the training paths vary greatly. For example, real estate sales and insurance sales require licensing by the Department of Consumer Affairs. Licenses are granted after successful completion of the pre-licensing course from either the Nova Scotia Real Estate Association or the Insurance Institute of Canada. The candidates must be hired by a real estate company before taking the course. Securities salespersons must be licensed by the Nova Scotia Securities Commission. To be licensed, individuals must be employed full-time and have completed a home study course administered by the Canadian Securities Institute in Toronto.

Some sales positions may require a technical knowledge of the product or service which may be gained through the Nova Scotia Community College. The Dartmouth Adult Vocational Training Centre Campus of the Nova Scotia Community College offers programs entitled Retail Selling and Sales Representation and Marketing. All referrals for these courses must be made through the local Canada Employment Centre. Private training schools may also provide training in professional sales.

Other sales positions may require a broad business background which may be obtained through either a Commerce or Business Administration degree. Training for some sales positions, such as car salesperson, can be obtained on the job or through training companies around the Province.

**Skills and Aptitudes**
Individuals in these occupations should have excellent interpersonal and communication skills, and be energetic and enthusiastic. They should always be aware of the customer's needs and be as helpful and efficient as possible; this is crucial in sales.

**Job Prospects**
Although employment can be found in a wide range of industries, the majority of jobs are in retail trade, wholesale trade, and the finance, insurance, and real estate industries. The level of employment in these occupations is affected by economic conditions. Technology is another important factor as the development of new products will require sales promotion and marketing services. Workers in these occupations must stay up to date with new products and services available to their clientele.

Annual earnings will vary according to the product being sold, industry, location of work, qualifications of the individual, and percentage of commissions from sales. Earnings in some jobs are based totally on commission.

**For Further Information**
Association of Canadian Advertisers
180 Bloor St. West, Suite 803
Toronto, Ontario
M5S 2V6

Canadian Securities Institute
33 Yonge St., Suite 360
Toronto, Ontario
M5E 1G4

Insurance Institute of Nova Scotia
1660 Hollis Street, Ste. 803
P.O. Box 1561
Halifax, Nova Scotia
B3J 2Y3

Nova Scotia Real Estate Association
7 Scarfe Court
Burnside Industrial Park
Dartmouth, Nova Scotia
B3B 1W4

# Arts and Crafts Occupations

# Mu[illegible]d related occupations

**Typical Occupations**

- band conductor
- choir director
- music composer
- pianist
- vocalist

**Nature of the Work**

This occupational group is involved in playing musical instruments in orchestras, bands, chamber music ensembles, solo recitals, and jazz groups; singing as a soloist or member of a vocal group; composing, adapting, arranging, or copying music; and conducting instrumental or vocal performances. Musicians generally perform at night and on weekends, and also spend a considerable amount of time in rehearsal and practice. Many musicians often hold other jobs to supplement their income.

**Requirements**

While there are no formal requirements for entrance into these occupations, a high degree of talent and a university degree are strongly recommended. In order to perform in an establishment as a paid performer, one must be registered with the Atlantic Federation of Musicians. For acceptance into orchestras or bands, formal auditions are held, often on national and international levels.

**Training Paths**

There are two ways to receive training in these occupations. A Bachelor's degree in Music may be obtained from Dalhousie University, Acadia University, and Saint Francis Xavier University through a four-year program requiring completion of the twelfth grade for entrance. These programs emphasize both the theoretical and practical aspects of music. Saint Francis Xavier University also offers a four-year degree and a two and one-half year diploma program in Jazz Studies. Alternatively, individuals may take private lessons in voice or an instrument to obtain the necessary skill level. Pre-university training is essential; training on the piano in addition to a primary instrument is strongly recommended. The content and emphasis of private lessons is entirely up to the individual teacher and student. Examiners from the Royal Conservatory of Music visit many communities in the spring of each year to conduct testing for those students who wish to be graded on the skills learned. The Maritime Conservatory of Music also offers many courses. Dalhousie University offers six courses leading to a certificate for those who wish to become music instructors. A Bachelor's degree in Music is required for entrance.

**Skills and Aptitudes**

The most essential qualities for a musician to possess are talent, dedication, and an ability to accept constructive criticism. Musicians must be willing to travel and put in long hours in practice and when performing. Technical and artistic skills are necessary for success. Abilities in tone production, sight reading and improvising are expected.

**Job Prospects**

Individuals in these occupations are usually employed in entertainment and recreation businesses such as sound recording services, dance studios, bands and orchestras. In times of favourable economic conditions people will have more money to spend on leisure activities, thus increasing the employment opportunities for these individuals.

Annual earnings depend on the specific occupation and the success and talent of the individual.

**For Further Information**

Atlantic Federation of Musicians
6309 Chebucto Road
Halifax, Nova Scotia
B3L 1K9

Maritime Conservatory of Music
5830 Spring Garden Road
Halifax, Nova Scotia
B3H 1X8

## NOVA [illegible]
## [illegible] CONDITIONS

**Employment**

- Estimated employment in 1990: **520**
- Employment growth between 1990 and 1996 is projected to be: **Above Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **60**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$19,000**

# *Painters, sculptors, and illustrating artists*

**Typical Occupations**

graphic designer
illustrator
landscape painter
portrait painter
stained glass artist

**Nature of the Work**

This group includes occupations in the fine arts and occupations which are commercial in nature. Painters, sculptors and related artists are involved in creating original artistic works, personally interpreted through painting, drawing, engraving, sculpting, and etching. Advertising and illustrating artists and graphic designers utilize art and technology to communicate ideas. By controlling colour, type, symbols, and photography, these individuals create and manage the production of images designed to inform and persuade a specific audience. They often collaborate with marketing researchers and public relations specialists to develop design options. Activities may include creating illustrations and designs for various purposes related to advertising, instruction, and entertainment.

**Requirements**

There are a number of distinct occupations within this group. Courses to improve an individual's design and production skills would be an asset in gaining employment in the occupations which are commercial in nature.

**Training Paths**

For those wishing to receive formal training, the Nova Scotia College of Art and Design offers a four-year program at the Bachelor's level, a two-year program at the Master's level in Fine Arts and a one-year program at the Master's level in Art Education, as well as a diploma program in Fine Arts. Completion of the twelfth grade is required for entry. Interested applicants should consult the College for further details. Alternatively, individuals may take private lessons in painting, drawing, art appreciation, or other related fields. Contact the local school board office or continuing education department at various universities throughout Nova Scotia for short course information.

**Skills and Aptitudes**

A natural ability to draw, paint or sculpt is desirable, along with a good sense of creativity and imagination. The ability to visualize a finished piece of work from a sketch or brief description is also necessary. Computer skills, as well as design and production skills, are important for those occupations which are commercial in nature. Leadership skills may be an asset.

**Job Prospects**

These workers are employed in services engaged in entertainment and recreation, retail trade, business services, advertising, education, and manufacturing. Work may not be steady and hours may be flexible. The demand for illustrating artists may increase as producers of information, goods and services put increased emphasis on visual appeal in product design, advertising, marketing and television.

Earnings are expected to vary significantly, depending mainly on the quality of the work produced by the artist.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **760**
- Employment growth between 1990 and 1996 is projected to be: **Above Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **100**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$22,000**

# *Performing and audiovisual arts occupations*

**Typical Occupations**
actor/actress
choreographer
dancer
director
radio and television announcer

**Nature of the Work**
This occupational group includes actors, dancers, choreographers, announcers, producers, directors, broadcasters and researchers. Their work, generally intended for public viewing, occurs either on-stage or off-stage in television, radio, film or live performance. Acting requires patience and total commitment, since actors must wait for parts or filming schedules, work long hours, and travel frequently. Directors and producers often work under stress as they must try to meet schedules, stay within budgets, and resolve personnel problems. These occupations may not always fit into a normal 9:00-5:00 routine. For individuals in these occupations, advancement often takes the form of a growing reputation, bigger and better jobs, and higher pay.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

| | |
|---|---|
| * Estimated employment in 1990: | **840** |
| * Employment growth between 1990 and 1996 is projected to be: | **Above Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **90** |

**Unemployment**

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Below Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$38,000** |

**Requirements**
The requirements for entrance into most of these occupations are varied and specific. For some of the occupations, the chances of gaining employment increase with the amount of education and training obtained; however, for others, success depends on talent, training, performance experience and perseverance.

**Training Paths**
A wide range of related courses and programs exist in this broad field. Acadia University, Dalhousie University and the University of King's College offer three and four-year Bachelor's degree programs in Theatre. Completion of the twelfth grade is required for entrance.

A variety of other programs exist in specialty areas of these occupations in schools, universities, theatres, and drama leagues throughout Nova Scotia and Canada. Other sources of information should be sought for more detail on these programs.

For those interested in dance, early and intensive training is very important. Serious training for a career in dancing traditionally begins between the ages of ten and twelve, and as early as five to eight years for ballet. The Dance Department at the Maritime Conservatory of Music in Halifax offers training in ballet, creative movement, and jazz dance as well as ballroom and social dance. The Halifax Dance School and Scotia Ballet also offer training in dance and should be consulted for further information. Entrance is generally by audition only.

Programs in Radio and Television Broadcasting are offered in Nova Scotia. Kingstec offers a two-year program requiring completion of the twelfth grade for entry and Memorial High School offers a two-year program requiring completion of the tenth grade. The Atlantic Broadcasting Institute in Halifax also offers a six-month program in Media Broadcasting.

**Skills and Aptitudes**
For many of these occupations, a combination of talent and technical skills is necessary. The ability to take direction and accept correction and criticism is important, as is the ability to get along well with others and express ideas and thoughts clearly. Creativity and imagination are helpful. As most artists are independent contractors, some knowledge of business basics would be useful.

**Job Prospects**
People in this occupational category generally work in radio and television, amusement and recreation, and education. Finding employment in these areas will depend largely on the economy. Favourable economic conditions will mean people have more money to spend on leisure activities, thereby increasing the number of jobs for these workers.

Also, the growing importance of visual images in education, communication, entertainment, marketing and research may create more job opportunities. Business firms, for example, are making greater use of videocassettes, training films and other visual aids in meetings, company reports, sales campaigns, and public relations activities.

Earnings and method of payment will vary depending on the occupation and industry. There tends to be a lot of competition for existing jobs in this field and part-time or temporary work is common.

**For Further Information**
Alliance of Canadian Cinema,
Television and Radio Artists (ACTRA)
5510 Spring Garden Road
Halifax, Nova Scotia
B3J 1G5

Dance Nova Scotia
5516 Spring Garden Road, Suite 305
Halifax, Nova Scotia
B3J 1G6

# *Prod[illegible] interior designers*

**Typical Occupations**

colour expert
costume designer
computer graphics designer
fashion designer
theatre scenographer

**Nature of the Work**

This occupational group includes individuals who create designs for industrial and commercial products as well as commercial, residential, retail, hospitality and institutional interiors. Activities may include developing designs for manufactured products and window displays, space planning, and architectural drafting for interior portions of projects. Designers frequently adjust their workday to suit their clients and meet with them during evenings or on weekends when required.

**Requirements**

Although there are no formal education or certification requirements to work in these occupations, completion of a three or four-year program at a college or university is strongly recommended. Presently there is no provincial legislation in Nova Scotia that restricts the use of the Interior Design designation; however, in seven of the Canadian provinces, its use is restricted to those who meet the education and experience requirements.

**Training Paths**

Training in the area of drawing and design may be obtained from the Nova Scotia College of Art and Design through the Fine Arts, Graphic Design, Visual Design and Communication Design programs. Interested individuals should consult the College for information on the entrance requirements. A degree program in Theatre Scenography is offered at Dalhousie University. The minimum entrance requirement for this four-year program is completion of the twelfth grade. A two-year certificate program and a three-year diploma program in Costume Studies is also available at Dalhousie University and the University of King's College, requiring completion of the twelfth grade. Diploma courses in Graphic Design are offered at Cobetec and the Annapolis and Sydney campuses of the Nova Scotia Community College. These courses are two years in length and minimally require completion of the tenth or eleventh grade for entry. There is currently no training in Nova Scotia for Interior Design students; however, Ryerson Polytechnical Institute in Toronto offers a four-year degree program in this specific field. Short courses in Interior Decorating may be available through the local school board office or continuing education department at various universities throughout Nova Scotia.

**Skills and Aptitudes**

Individuals in these occupations should be creative, imaginative and artistic. They should have a good sense of colour and design, be able to visualize three-dimensional drawings, and must be able to work well with others. They must be able to communicate their ideas visually and be open to new ideas and influences.

**Job Prospects**

The retail trade sector is the largest employer of product and interior designers. This sector includes stores and shops of every type; examples include clothing stores, department stores and book stores. Other employment opportunities are available in industries such as manufacturing, construction, business, government and hospitals. The range of employers makes it possible for workers to have some flexibility in choosing the industry and location of work. The number of new job openings will depend on the level of retail sales, construction activity, and general economic conditions.

Available jobs for industrial designers will be influenced by a number of factors including attention to product quality and safety; design of new products for businesses and offices; and the use of high-technology products in medicine, transportation, and other fields. The number of job openings for interior designers will depend on whether there will continue to be more people and industries in the population who want to use interior design services. The amount of money that individuals have available to spend on interior design will also affect the number of job opportunities.

**For Further Information**

Association of Interior Designers
of Nova Scotia
Box 2042, Station "M"
Halifax, Nova Scotia
B3J 3B4

## NOVA [illegible] MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **550**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **80**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# Other Highly Skilled Occupations

# Air pilots

**Typical Occupations**
aviator
flying instructor
helicopter pilot
navigator
test pilot

**Nature of the Work**
This occupational group is concerned with piloting and navigating fixed-wing airplanes and helicopters; directing the course of airplanes and helicopters in accordance with clearances received from air traffic control, where applicable; inspecting airplane systems and equipment before flight; tending to instrument gauges and controls during flight; and conducting in-flight adjustments and repairs. Individuals in these occupations have irregular hours including evenings, weekends and holidays.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **210**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$67,000**

**Requirements**
The minimum requirement for airline pilots is a Canadian Commercial Pilot's License with night endorsement; an Airline Transport Rating, complete with a Class 1 Instrument Rating and 2,000 flying hours; and a Canadian Radio Telephone License. Each pilot must also have a valid Transport Canada medical certificate, which is renewed regularly, requiring an annual medical examination.

**Training Paths**
While there is no training available in public institutions for these occupations in Nova Scotia, two- and three-year programs in aviation technology are offered at colleges in Central and Western Canada. Completion of the twelfth grade with good standing in mathematics and science is generally required for entry. Upon completion, students should possess a Commercial License, Multi-Engine Endorsement, and a current Instrument Flight Rating.

Although it is a more expensive route, students may obtain their Commercial License through instruction given at private flying clubs or training schools in Nova Scotia. Universal Helicopters Newfoundland Limited provides flight training for commercial, private, instrument, night, and pilot proficiency in Goose Bay, Labrador. Individuals must be eighteen years of age and pass a medical examination.

The Canadian Forces also has a seven-month pilot training program, following which several years experience is required. Candidates must hold a university degree and meet height and medical standards. For more information, contact the Canadian Forces.

**Skills and Aptitudes**
Individuals in these occupations should have a well-balanced personality, self-confidence, a strong sense of responsibility, leadership and initiative. Good communication skills, both oral and written, are essential. Individuals should possess good manual dexterity, a mechanical aptitude and must have excellent physical and mental health. High school students interested in flying can gain valuable experience by joining the Air Cadets in their area.

**Job Prospects**
Air pilots, flight officers, and flight engineers are employed mainly in air transportation industries, with some employment in the Provincial Government and business services. Employment will be influenced by the level of tourism and business travel. During recessions, when there is a decline in the demand for air travel, airlines may temporarily lay off a number of these workers.

Earnings will depend on the specific occupation, qualifications, and airline with which the individual is employed. Pilots who fly large jet aircraft over long distances earn the highest salaries, while those flying small airplanes on short domestic routes earn the least.

**For Further Information**
Air Canada, Personnel Office
P.O. Box 470
Dartmouth, Nova Scotia
B2Y 3Y8

Canadian Airlines International
Employee Services
3111 Convair Drive
Mississauga, Ontario
L5P 1C2

Universal Helicopters
Newfoundland Limited
P.O. Box 9025, Station "B"
St. John's, Newfoundland
A1A 2X3

Canadian Air Line Pilots Association
1300 Steeles Avenue East
Brampton, Ontario
L6T 1A2

# *Air transport support occupations*

**Typical Occupations**
air traffic controller
control-tower operator
flight dispatcher
flight service specialist

**Nature of the Work**
This occupational group is concerned with providing direct ground support to air transport operations. Activities may include controlling air traffic during takeoff, landing and flight, and communicating with aircraft by radiotelegraph and radiotelephone.

**Requirements**
There are a number of occupations within this group, one of which is air traffic controller. An Air Traffic Controller's License must be obtained from Transport Canada in order to work in this occupation. Also in this group is the occupation of flight service specialist, where again Transport Canada is the authorizing agency.

**Training Paths**
Students interested in the occupations of air traffic controller or flight service specialist must apply to Transport Canada for training. Candidates undergo an aptitude test, an interview, a medical examination (including eye test) and security clearance. If a candidate successfully completes the above, he/she is able to attend the Federal Training Institute in Cornwall, Ontario. The training program for an air traffic controller usually lasts eighteen to twenty-four months, while the training for a flight service specialist is usually twelve to eighteen months. It is preferred that applicants have completed the twelfth grade. Training for the other occupations in this group, such as operational support specialist, is provided by the employer through on-the-job training.

**Skills and Aptitudes**
Since directions to pilots must be given quickly and clearly, individuals must be articulate. Good health and eyesight are required.

**Job Prospects**
These workers are employed in air transportation industries and with the Federal Government. There has recently been a shortage of these workers; air transportation regulations may further increase the demand for them.

Air traffic controllers who continue to meet the proficiency and medical requirements enjoy more job security than most workers. The demand for air travel and the workloads of air traffic controllers decline during recessions, but controllers are seldom laid off.

**For Further Information**
Regional Director of Personnel
Transport Canada
P.O. Box 42
Moncton, New Brunswick
E1C 8K6

Canadian Air Traffic Control Association
400 Cumberland Street, Ste. 1100
Ottawa, Ontario
K1N 8X3

Canadian Aeronautics and Space Institute
818 - 130 Slater Street
Ottawa, Ontario
K1P 6E2

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
* Estimated employment in 1990: **160**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$41,000**

# *Architectural and engineering technicians and technologists*

**Nature of the Work**
The occupations in this group include both technicians and technologists in an architectural or an engineering specialization, such as chemical, civil, electrical, mechanical or environmental. Activities may include technological functions such as support in research, design, and development; and technical functions, such as support in installation, operation, maintenance, production, and control. Most technicians and technologists work regular hours in offices, laboratories, electronics shops, or industrial plants. Some engineering positions may involve exposure to electrical shock hazards from equipment.

**Requirements**
Individuals in these occupations are generally required to have an Architectural or Engineering Technician or Technology diploma from a recognized institute. Certification for engineering technicians and technologists from an accredited school, although not mandatory, is becoming important as employers are increasingly requiring it. The Society of Certified Engineering Technologists and Technicians should be contacted for further information on those occupations. There is no related society in Nova Scotia for architectural technicians and technologists.

**Training Paths**
There are two accredited schools in Nova Scotia offering training in engineering technology with a number of specializations. The Institute of Technology offers training with concentration in electrical, mechanical and electronic. The University College of Cape Breton offers training with a concentration in environmental, electrical/electronic, civil/construction, and mechanical. These programs are two or three years in length. Graduates of the engineering technology program, upon completion of two years work experience, may be registered as Certified Technologists. Two-year programs in Planning Technology and Building Technology are offered at the College of Geographic Sciences. In addition, the Agricultural College offers a two-year agricultural engineering technology program requiring completion of a related technician program for entrance. Electronic Engineering Technician programs are available at several campuses of the Nova Scotia Community College. Other related programs in the Community College include Survey Technologist, Survey Technician, Drafting and Cartography (Mapping). These programs range from one to two years in length.

Each of the above-mentioned programs require completion of the twelfth grade with good standing in chemistry, physics, mathematics and English for entrance.

**Skills and Aptitudes**
Individuals in these occupations should possess a good mechanical aptitude and have an interest in discovering how things work. Effective oral and written communication skills are important. Individuals must be able to work well under pressure, and be able to collaborate and cooperate with others as they are often part of a team of engineers and/or architects.

**Job Prospects**
Individuals in these occupations are employed by the Federal Government, as well as in business services, telecommunications, and electric and electronic products manufacturing. Smaller numbers are employed in a large number of other industries.

**For Further Information**

Society of Certified Engineering
Technologists and
Technicians in Nova Scotia
P.O. Box 159, D.M.P.S.
Dartmouth, Nova Scotia
B2Y 3Y3

Nova Scotia Association of Architects
1361 Barrington Street
Halifax, Nova Scotia
B3J 1Y9

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **1,590**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **120**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$37,000**

# *Computer programmers and systems analysts*

**Typical Occupations**

electronic data processing (EDP) analyst
management information systems (MIS) analyst
scientific programmer
software designer

**Nature of the Work**

This occupational group is concerned with writing computer programs to manipulate or organize large volumes of information; planning, implementing and supervising computer processing services; maintaining existing systems; responding to system failures; and adapting computer software packages for specific applications. These individuals usually work regular hours; however, they may work extra hours to meet deadlines. Typically, individuals will get involved in systems analysis after gaining experience in programming. A considerable amount of business and application knowledge is normally a prerequisite for an analyst's position.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **2,170**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **320**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$38,000**

**Requirements**

Individuals in these occupations are generally required to have a diploma in Computer Programming, Computer Graphics, or Computer Science Technology; or a university degree in Computer Science.

**Training Paths**

Several campuses of the Nova Scotia Community College offer two-year diploma programs in Computer Programming, Computer Technology, and Data Processing. The College of Geographic Sciences offers a two-year program in Computer Graphics and a one-year program in Scientific Applications Programming. Applicants to the Scientific Applications Programming course must have successfully completed the Computer Programming Technician program. An eighty-week program for individuals wishing to specialize in mini/micro computers is available at the Institute of Technology. Application may be made through the local Canada Employment Centre. Additionally, various private trade schools throughout the Province provide training programs in Computer Technology and Programming.

Alternatively, several universities offer a four-year program leading to a Bachelor's degree in Computer Science or Information Systems, or a Bachelor of Science with a major in Computer Science. Engineering firms may require a Bachelor's degree in Engineering. Entrance requirements for each of these institutions include completion of the twelfth grade with good academic standing in mathematics and the sciences.

**Skills and Aptitudes**

Computer programmers and systems analysts should have a sense for precision and detail; possess good methodological, analytical and organizational skills; and be able to communicate well both orally and in writing.

**Job Prospects**

Computer programmers and systems analysts are employed mainly in business offices, the Provincial and Federal Governments, and education.

The demand for computer programmers and systems analysts is expected to rise as businesses, government, schools, and scientific organizations seek new applications for computers and improvements to the software already in use. Although opportunities will exist throughout the economy, jobs for both systems and applications programmers should be particularly plentiful in data processing service firms, software development businesses, and computer consulting organizations. Office and factory automation, telecommunications technology, and scientific research are areas where the use of computer systems will expand dramatically in the years ahead. More systems analysts will be needed to implement these changes in new or existing systems.

**For Further Information**

Canadian Information Processing Society
Bluenose Section
P.O. Box 2132, Station "M"
Halifax, Nova Scotia
B3J 3B7

Computer and Information Science Association
c/o Department of Computer Science
Brock University
St. Catharines, Ontario
L2S 3A1

# *Drafters*

**Typical Occupations**

architectural drafter
computer-assisted drafter
design draftsperson
electronic draftsperson
map maker

**Nature of the Work**

This occupational group is concerned with preparing drawings from designers' diagrams and specifications to be used for machine manufacturing or for constructing buildings, dams, roads and other civil engineering projects. Activities include drafting topographical, economic, nautical and other maps and charts; illustrating technical manuals dealing with assembly, installation, operation, maintenance and repair of machinery and other equipment; and duplicating plans and drawings. Drafting often involves the use of computer-assisted drafting (CAD) equipment.

**Requirements**

While there are no formal requirements for individuals working in this occupation, completion of a drafting program is strongly recommended.

**Training Paths**

Individuals entering this occupation may receive their training through a one- or two-year drafting program offered at several campuses of the Nova Scotia Community College. These programs include Computer-Aided Drafting, Architectural Drafting, and Mechanical Drafting. Completion of the eleventh grade is generally required for entrance.

**Skills and Aptitudes**

To enter into this occupation, individuals should have a talent to draw and sketch; a desire for accuracy and efficiency; and be neat and systematic in their approach to projects. Computer skills are usually required.

**Job Prospects**

People employed in drafting occupations work in engineering and architectural services, government, electric power companies and the construction industry. New drafting technologies involve the use of computerized systems and computer-aided design methods. As drafters are highly concentrated in industries that are sensitive to cyclical swings in the economy, during recessions drafters may be laid off when fewer buildings may be designed. Reductions in government spending may also limit employment opportunities for these workers.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **960**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# *Electronic communications equipment operators*

**Typical Occupations**
broadcast technician
radio operator
sound editor
video control operator

**Nature of the Work**
This occupational group includes occupations concerned with monitoring, controlling and operating radio and television broadcasting equipment as well as other communications equipment; and recording and reproducing video images and audio, by use of electronic equipment, for radio and television broadcasting and motion picture and tape production.

**Requirements**
Individuals in these occupations are generally required to have training in Electronics or Broadcast Technology.

**Training Paths**
Training in Electronics is offered at several campuses of the Nova Scotia Community College. These programs are two years in length and may require completion of the eleventh or twelfth grade for entrance. Kingstec and Memorial High School Composite offer a two-year program in Radio and Television Broadcasting with Broadcast Electronics as part of its curriculum. Contact those institutions for further information on training requirements.

**Skills and Aptitudes**
Individuals interested in the above occupations should have the ability to understand principles of electronics and mechanical operations. They are required to perform intricate work with their hands and must have good motor skills and manual dexterity. Individuals must be able to collaborate and cooperate with others as they will often be involved in teamwork.

**Job Prospects**
Workers in these occupations are employed by governments and telecommunications firms and in broadcasting.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **440**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$37,000**

# *Firefighters*

**Nature of the Work**

This occupational group is concerned with the prevention of fires as well as providing protection and help in case of fire. Duties include firefighting, checking and maintaining firefighting equipment for serviceability, identifying fire hazards, and advising on appropriate steps toward fire prevention. Firefighting is one of the most hazardous occupations involving risk of death or injury.

**Requirements**

Individuals are required to have successfully completed the twelfth grade, have a valid driver's license, and pass a written entrance exam, a medical examination, and tests of strength, physical stamina, coordination and agility.

**Training Paths**

Upon obtaining employment in this occupation, an individual will receive approximately six weeks of recruit training before being assigned to station duty. Training for firefighters is a continuous process involving on- and off-the-job training. In addition, upgrading courses in all areas of firefighting and rescue operations may be taken at the Nova Scotia Firefighters School in Waverley. These courses are usually sponsored by the employer.

**Skills and Aptitudes**

Individuals in this occupation must be in excellent health and be able to tolerate stress, high risks, and the unexpected. The ability to react quickly is necessary. Mental alertness, courage, mechanical aptitude, and a sense of public service are also necessary.

**Job Prospects**

Almost all firefighters in Nova Scotia are employed by Municipal and Federal Governments. Since the smaller towns and communities operate under a voluntary system, employment is found in the larger areas of the Province. These workers will become more in demand as the population increases. Aside from government, a smaller number of firefighters are employed with the logging and forestry industries.

Despite the increase in population and fire protection needs, cutbacks in government spending may limit growth of new firefighter jobs; however, once a person becomes established in a job as a firefighter, layoffs are not common. Fire protection is an essential service, and citizens are likely to exert considerable pressure on city officials to expand or at least preserve the level of fire protection coverage.

**For Further Information**

Halifax Fire Department
5663 West Street
Halifax, Nova Scotia
B3K 1H6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **710**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$35,000**

# Funeral directors and embalmers

**Typical Occupations**

cremator
funeral attendant
mortician
undertaker

**Nature of the Work**

This occupational group is involved in arranging and directing funerals and preparing bodies for burial. Responsibilities of funeral directors include: organizing the removal of the body to the mortuary; obtaining data on the deceased through family or other authorized persons; filing appropriate reports; helping to choose a casket and type of funeral; and handling publication of death notices. The duties of embalmers include washing the corpse, draining blood from the body and replacing it with embalming fluid, and applying cosmetics.

**Requirements**

Registration and licensing by the Board of Registration of Embalmers and Funeral Directors is compulsory to work in these occupations. To become an embalmer in Nova Scotia, an individual must have completed a minimum of the twelfth grade, successfully completed a Funeral Services program plus a fourteen-month on-the-job training program under the supervision of a licensed embalmer, and passed a clinical exam at the conclusion of the apprenticeship. In order to become a funeral director, the individual must complete a minimum of twelve months as an apprentice under a licensed funeral director and pass a written examination.

**Training Paths**

A Funeral Services program is offered at Kingstec of the Nova Scotia Community College requiring completion of the twelfth grade for entrance. Manuals that could assist in preparing for the clinical exam are sold at the Nova Scotia Department of Consumer Affairs.

**Skills and Aptitudes**

Funeral directors and embalmers should feel comfortable working with the deceased and should be able to comfort people in times of distress. Funeral directors are often called in the middle of the night and must show consideration and tact at all times.

**Job Prospects**

Funeral directors and embalmers are employed in funeral homes. There are expected to be no significant developments affecting employment in the future. Unemployment is very low in this occupational category. Occupational growth is related to the age structure of the population and other demographic factors. This occupational group is not vulnerable to changes in economic conditions.

**For Further Information**

Nova Scotia Department of
Consumer Affairs
P.O. Box 998
Halifax, Nova Scotia
B3J 2X3

Funeral Service Association of Nova Scotia
172 Main Street
Kentville, Nova Scotia
B4N 1J8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **210**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$36,000**

# Library and museum technicians

**Typical Occupations**
archival assistant
art restorer
document restorer
taxidermist

**Nature of the Work**

This occupational group is concerned with activities involved in the library, museum and archival sciences. Library technicians assist in ordering, cataloguing, processing, maintaining, circulating and promoting collections of library materials; provide information and advisory services to readers; and, in public schools, participate in library programming. Technicians may also organize and supervise the work of library clerical staff. Museum cataloguers are involved in compiling information on items in a museum or gallery collection and may also be involved in supervising and organizing the activities of other workers. Individuals in these occupations usually work regular hours.

**Requirements**

Employers' educational requirements vary. They generally require completion of the twelfth grade with either successful completion of a library or museum technician program, a Bachelor's degree, or several years of satisfactory library or museum work experience.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **30**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$28,000**

**Training Paths**

A two-year Library Technician program is offered at Kingstec and the Halifax Campus of the Nova Scotia Community College. Completion of the twelfth grade is required for entry. Individuals interested in museum cataloguing or other museum-related occupations may follow one of two routes in Nova Scotia. The University College of Cape Breton offers a Bachelor of Arts with a major in Museum Studies. The entrance requirement to this three-year program is completion of the twelfth grade. An alternate route is to obtain employment directly with an employer. Formal training or museum experience is often desirable. The only programs in Museum Technology are available at Algonquin College in Ottawa (English) and at College Montmorency in Laval, Quebec (French). The Canadian Museum Association provides a distance learning program; the Association should be contacted for further information. One introductory class in Museum Studies is available at Mount Saint Vincent University involving three hours of class time per week for one academic year, and includes occasional fieldwork. As this class would not necessarily provide the needed background, it is recommended that interested individuals volunteer at their local museum or gallery to gain more experience.

**Skills and Aptitudes**

Individuals in these occupations must be able to work independently with library or museum users, cooperate with other staff, and supervise clerical staff. Good communication skills, both oral and written, are essential. Familiarity with microcomputer and audiovisual equipment may be required. A knowledge of literature is also an asset.

**Job Prospects**

Individuals in this small occupational group are mostly employed in public libraries and educational institutions. Also, government departments employ a small number of these workers. Employment growth in these occupations may be limited due to funding cutbacks in education services and downsizing in government.

Employment of technicians in school libraries is expected to grow slowly, paralleling school enrolments. Opportunities will continue to be best for those with good computer skills.

**For Further Information**

Nova Scotia Library Association
c/o Pictou-Antigonish Regional Library
P.O. Box 276
New Glasgow, Nova Scotia
B2H 5E3

Nova Scotia School Library Association
c/o Sir Robert Borden Jr. High School
16 Evergreen Avenue
Dartmouth, Nova Scotia
B3W 4A7

Canadian Museum Association
280 Metcalfe Street, Ste. 400
Ottawa, Ontario
K2P 1R7

# *Life sciences technicians and technologists*

**Typical Occupations**

agricultural technician
biological technologist
forestry technician
forestry biology ranger
soil technologist

**Nature of the Work**

This occupational group is concerned with carrying out technological and technical functions in a life sciences specialization such as forestry, botany, zoology, horticulture or agriculture, using a knowledge of scientific and mathematical principles and laboratory practices. Individuals in these occupations may be involved in providing technical assistance to a researcher or scientist in the life sciences. For example, forest technicians assist foresters in managing and conserving forests. They may also be responsible for the administration and direct supervision of the operations in which they are involved. Life sciences technicians and technologists usually work regular hours; however, irregular hours may be required to follow through on an experiment or fieldwork.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **420**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Above Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

**Requirements**

Individuals in these occupations have at least completed the twelfth grade, and an appropriate community college program or a university Bachelor's degree.

**Training Paths**

Given the large number of occupations included in this group, there are a number of training paths. Depending on the area of interest, training may be taken at one of the campuses of the Nova Scotia Community College or at one of several universities which offer Bachelor's degrees in Science. These university programs are three to four years in length and also have a minimum entrance requirement of twelfth grade.

The Nova Scotia Agricultural College offers a number of technician and technology programs in the life sciences. The technician programs include Animal Science, Plant Science and Agricultural Engineering. The technology programs include Animal Health, Biology Technology, Landscape Horticulture Technology, Agricultural Technology, Agricultural Engineering Technology, and Farming Technology. These programs are generally one to two years in length and require completion of the twelfth grade for entry. Some of the technology programs require completion of a technician program for admission.

Individuals interested in the occupation of forest technician may enrol in a one-year program at the Maritime Forest Ranger School in Fredericton. Emphasis in this program is placed on forest botany, tree identification, scaling, mensuration, fish and wildlife management, forest fire management, photogrammetry, surveying, silviculture and logging.

Forestry programs are offered at four campuses of the Nova Scotia Community College and require completion of at least the tenth grade. Their length is generally one year. The Commercial Safety College also offers two levels of training in Silviculture, their lengths being five and six weeks. There are a number of courses in Forestry offered as well. The nearest Canada Employment Centre should be contacted for further information.

**Skills and Aptitudes**

Individuals working in these occupations should have a scientific aptitude, enjoy technical work and have good oral and written communication skills. A high degree of manual dexterity and mechanical ability may also be required. They must be able to work independently and as a member of a team while performing precise, analytical tasks. Familiarity with computers is required for some positions.

**Job Prospects**

Life sciences technicians and technologists are employed in various provincial government departments including Natural Resources, Agriculture, and Environment. Other employment can be found in business and in education services. Jobs in this occupational group are affected by the level of spending on government services and research as well as private sector development and research activities. Resource conservation and concern for the environment may mean more employment opportunities will be created in the future. Computer skills are an asset in this type of work.

**For Further Information**

Nova Scotia Department of
Natural Resources
P.O. Box 68
Truro, Nova Scotia
B2N 5B8

National Research Council of Canada
Building M-58
Montreal Road
Ottawa, Ontario
K1A 0R6

Commercial Safety College
P.O. Box 848
Truro, Nova Scotia
B2N 5G6

# *Motion picture projectionists*

**Nature of the Work**
This occupational group is concerned with operating motion picture projection and related equipment (35mm and 70mm) in theatres or similar establishments to produce coordinated motion picture entertainment. Activities include repairing breaks in film using a film splicer, cleaning lenses, oiling equipment and making minor repairs and adjustments. These individuals may operate a slide projector or stage spotlight if required.

**Requirements**
The Theatres and Amusements Act states that individuals must hold a license to operate a cinematograph. To obtain a license, an individual must either serve as an apprentice to a licensed operator for a period of not less than 400 hours, have been licensed as an operator in another province or country or have passed such written and other examinations as the Nova Scotia Department of Consumer Affairs may prescribe, and must be at least eighteen years of age.

**Training Paths**
Training for this occupation in Nova Scotia is received on the job under the supervision of a more experienced employee who holds a license. Four hundred hours of training must be logged. The candidate will then write an examination provided by the Nova Scotia Department of Consumer Affairs and will be asked to demonstrate proficiency in a projection booth.

**Skills and Aptitudes**
For individuals in this occupation, an interest in film and movies is an asset. The ability to make minor repairs to the projector and repair breaks in the film is also required. Good eyesight, colour vision, artistic ability, and manual dexterity are important.

The projectionist occupation is going through technological changes. Individuals must be prepared to increase their knowledge with respect to computerization and satellite communications.

**Job Prospects**
The few people employed in this occupation are in radio and television broadcasting industries and entertainment and recreation industries. The number of new job openings will be linked to the number of new facilities that are built for theatres, studios and attractions. The income people have available to spend on entertainment and leisure activities will have an influence.

**For Further Information**
Amusements Regulation Division
Department of Consumer Affairs
P.O. Box 607
Halifax, Nova Scotia
B3J 2R7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **10**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **N/A**

# *Occupations in religion*

**Typical Occupations**
church worker
minister
nun
priest
rabbi

**Nature of the Work**
This occupational group is primarily concerned with ministering to the spiritual needs of a congregation or community of a religious faith through the provision of motivation, leadership, religious training and guidance. Responsibilities may include preparing and conducting services of public worship, administering sacraments, supervising and conducting religious teaching, and performing other related functions. This group also includes nuns and brothers of religious orders. Graduates of programs in religion have entered into many diversified fields such as teaching, management, the ministry, social work, counselling and historical research. Individuals in these occupations may work long and irregular hours in administrative, educational and community service activities.

**Requirements**
Employment in these occupations usually requires a Bachelor's degree in Arts, Theology, or Religious Studies, plus the completion of a Master's degree in Theology, Divinity or Religious Studies.

**Training Paths**
Three- and four-year Bachelor programs are available at most universities in the Province, the minimum entrance requirement being completion of the twelfth grade. Master's programs are available at Acadia University and at the Atlantic School of Theology. These programs are either two or three years in length and require a Bachelor's degree for entrance. A specialization in Prison Ministry is offered at Acadia Divinity College through a one-year diploma program which also requires completion of a Bachelor's degree for admission.

**Skills and Aptitudes**
Individuals should be mature, self-disciplined, sensitive to the needs of others, and have a keen interest in serving people. Oral and written communication skills plus good organizational abilities are necessary.

**Job Prospects**
Although most employment is found in religious organizations, some employment exists in education and hospitals. The increasing cost of operating churches is expected to result in limited growth in the demand for these individuals.

Employment options for new entrants into these occupations also include working in youth counselling, family relations and welfare organizations; teaching in religious education institutions; and serving as religious personnel in the Armed Forces, hospitals, universities, and correctional institutions.

**For Further Information**
Canadian Association for
Pastoral Education
P.O. Box 96
Roxboro, Quebec
H8Y 3E8

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,170**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$22,000**

# Occupations in welfare and community service

**Typical Occupations**
camp counsellor
child welfare worker
community centre worker
sports organizer

**Nature of the Work**
This group includes occupations in the areas of health, recreation and community service concerned with providing social services to individuals, families and groups, and providing assistance to professional social workers. Duties may include planning and supervising recreational, social and cultural activities in youth or family camps, community centres, playgrounds and other settings, and caring for residents of halfway houses, group homes and similar establishments. Some evening and weekend work may be necessary. The work, while satisfying, can be emotionally draining. Turnover is reported to be high, especially among workers without academic preparation in this field.

**Requirements**
A university degree is usually considered to be the minimum requirement necessary for employment in these occupations.

**Training Paths**
The type of training will depend on the area of interest. If the individual wishes to work as either a recreation director or leader, a four-year Bachelor of Recreation degree would be appropriate. Degrees in this field are offered at Acadia University and Dalhousie University. For those interested in working with children, a four-year Bachelor of Child Studies is available at Mount Saint Vincent University. The Nova Scotia Teachers College also offers a two-year program in Child Development Services. Each of the above programs requires completion of the twelfth grade for entry. Mount Saint Vincent University offers a one-year program in Gerontology which requires completion of at least one year of university study for entry. This program would be suitable for individuals interested in working with the elderly. The University College of Cape Breton offers a three-year Bachelor of Community Studies requiring completion of the twelfth grade for admission. For those wishing to work as a social worker assistant, a Community Services Certificate course is available through the Department of Community Services and is taught at the Pictou Campus of the Nova Scotia Community College. This is a ten-month program and is available to those with completion of the twelfth grade plus two years of related work experience. Acadia University offers a five-course summer program in Counselling; this institution should be contacted for further information regarding the program.

**Skills and Aptitudes**
Individuals in these occupations tend to be outgoing, energetic and good listeners. The ability to communicate well with others is essential. An interest in helping others on a one-to-one basis or through a group situation is required, as is a strong sense of responsibility.

**Job Prospects**
While government is the largest employer of these workers, opportunities do exist in private health and social services. Although there appears to be an increasing demand for welfare and community service workers, reductions in government spending may limit the number of job openings in the future.

**For Further Information**
Nova Scotia Family and Child Welfare Association
Department of Community Services
1574 Argyle Street, Ste. 3
Halifax, Nova Scotia
B3J 2B3

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,930**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **140**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$25,000**

# *Occupations in writing*

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **870**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **100**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$35,000**

**Typical Occupations**

author
editor
journalist
news reporter
sports writer

**Nature of the Work**

This occupational group is concerned with writing and editing scripts for motion pictures, stage presentations, advertising, and broadcast programs; writing and editing activities for newspapers, magazines and books; and selecting, interpreting and editing news and other materials for information or entertainment through radio or television broadcasting. Some individuals in these occupations work regular hours; however, others work irregular hours including evenings and weekends depending on the type of employment. Many writers work on a freelance basis.

**Requirements**

Individuals in these occupations are not always required to possess a specific level of education, although a journalism or liberal arts degree is usually recommended.

**Training Paths**

A Bachelor's degree in Journalism is available at the University of King's College. This program is four years in length if admitted following completion of the twelfth grade. Individuals may also apply to the one-year Bachelor of Journalism program after having completed an undergraduate degree with typing ability and a reading knowledge of French. A Bachelor of Arts degree with a major in English is offered at most universities throughout the Province and is usually three or four years in length. Mount Saint Vincent University offers a four-year Bachelor's degree in Public Relations, the only degree of its kind in Canada. The minimum entrance requirement is completion of the twelfth grade. Diploma programs in Media Broadcasting and in Radio and Television Broadcasting are available at Kingstec of the Nova Scotia Community College, Memorial High School and the Atlantic Media and Broadcasting Institute. These programs are one to two years in length; institutions should be contacted for specific entrance requirements.

**Skills and Aptitudes**

Individuals in these occupations should possess good typing/word processing skills, excellent writing skills, resourcefulness and creativity. A critical mind, good organizational ability and language skills are also necessary. Editors must be tactful and able to guide and encourage others in their work.

**Job Prospects**

These workers are mainly employed in printing and publishing industries. Employment is also found in industries engaged in radio and television broadcasting, amusement and recreation, and education. Employment in this occupational group tends to be fairly stable as the work is not seasonal in nature. In some industries, such as advertising, the business cycle may affect the number of new job openings. New technology, such as word processors and electronic data processing equipment, allows writers and editors to do their jobs more efficiently.

**For Further Information**

Writers' Federation of Nova Scotia
Suite 203
5516 Spring Garden Road
Halifax, Nova Scotia
B3J 1G6

# *Other occupations in law*

**Typical Occupations**
contract analyst
law clerk
lease and title clerk
legal researcher
paralegal

**Nature of the Work**

This occupational group includes occupations involved in the application of legal principles to assist members of the legal profession and to act as officers of courts of law. Activities include representing clients looking for patent application or trademark registration, handling routine legal and administrative duties under the supervision of a lawyer, searching public records, and procuring documents required to clear land titles.

**Requirements**

There are no formal entrance requirements for individuals in these occupations.

**Training Paths**

Training for these occupations is available at two institutions in Nova Scotia. The University College of Cape Breton offers a three-year diploma program in Business Technology with a concentration in Paralegal Technology. Mount Saint Vincent University offers a Bachelor of Office Administration degree as well as a diploma in Office Administration with a legal specialization. Completion of the twelfth grade is required for entrance into these programs.

**Skills and Aptitudes**

Individuals in these occupations should have an interest in the legal profession and possess excellent oral and written communication skills. The ability to comprehend and follow instructions is important. Good interpersonal skills and tact are definite assets in dealing with clients.

**Job Prospects**

These workers are primarily employed in law offices and legal departments within government. Although most jobs are in the heavily populated areas, employment opportunities exist throughout the Province.

To a limited extent, paralegal jobs are affected by changes in the economy. During recessions, the demand for some selective legal services, such as planning estates, drafting wills, and handling real estate transactions, declines. As a result, paralegals employed in some offices may be laid off during poor economic times. On the other hand, during recessions, corporations and individuals are more likely to face an increase in other legal actions, such as bankruptcies, foreclosures, and divorces.

**For Further Information**

Canadian Association of Legal Assistants
P.O. Box 967, Station "B"
Montreal, Quebec
H3B 3K5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **310**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$28,000**

# *Photographic and related occupations*

### Typical Occupations

aerial photographer
camera operator
commercial photographer
news photographer
video camera operator

### Nature of the Work

This occupational group is concerned with photographing people, events, scenes, objects and products with still, motion-picture and television cameras. Activities include applying artistic and special effects; preparing and arranging subject matter; and planning and setting up special photographic equipment. Individuals may be involved in recording and reproducing video and audio images for radio and television broadcasting, motion-picture, tape, and phonograph record production. Working conditions for these occupations vary considerably from regular hours in comfortable, well-lighted offices to irregular hours doing fieldwork or photographing natural disasters or military conflicts.

### Requirements

While there are no formal requirements for entry into these occupations, completion of an educational training program is a definite asset.

### Training Paths

Training in these occupations is available at the Halifax Campus of the Nova Scotia Community College through a one-year program in Photography. The eleventh grade is required for entry. The Nova Scotia College of Art and Design also offers a program in Photography through a Bachelor of Design degree program. This is a four-year Bachelor's degree program which typically requires completion of the twelfth grade for admission.

### Skills and Aptitudes

Photographers require the ability to improvise with equipment and/or techniques. They must react quickly if they see a good shot or be very patient in other cases, waiting for the precise moment to take the picture. Photographers need creativity, imagination, and artistic talent. Attention to detail is also very important.

### Job Prospects

These workers are employed primarily in photography stores; many are self-employed. A smaller number are employed in Government and printing and publishing industries. Future employment will depend on such factors as the number of graduations and weddings, and the amount of income people will have to spend on photographs and film development. Employment is expected to remain relatively steady.

Demand for photographers will be affected by the steadily growing importance of visual images in areas such as education, communication, entertainment, marketing and research. Business firms, for example, are making greater use of photographs, videocassettes, training films and other visual aids in meetings, company reports, sales campaigns, and public relations activities.

Earnings will depend on the employer, type of photography, and the quality of work.

### For Further Information

Maritime Professional Photographers
Association
200 Sydney Road
Port Hawkesbury, Nova Scotia
B0E 2V0

## NOVA SCOTIA LABOUR MARKET CONDITIONS

### Employment

* Estimated employment in 1990: **250**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

### Unemployment

* The unemployment rate during the third quarter of 1990 was: **Average**

### Earnings Potential

* Estimated average annual earnings in 1991: **$29,000**

# *Physical sciences technicians and technologists*

**Typical Occupations**

chemical laboratory analyst
firearms expert
food technologist
geological technologist
meteorological technician

**Nature of the Work**

This occupational group operates within a physical science specialization such as physics, geology, chemistry, geophysics, astronomy or meteorology. Duties include carrying out technological or technical functions using a knowledge of scientific and mathematical principles and laboratory practices. These occupations may involve providing technical assistance to a researcher in the physical sciences. Individuals in these positions usually work regular hours; however, irregular hours may be required to follow through on an experiment or fieldwork.

**Requirements**

The specific requirements for entry into these occupations vary widely depending on the area of specialization; however, some level of post-secondary education is required in all cases.

**Training Paths**

There are a number of training paths for this group as it includes a wide variety of occupations. Kingstec offers a one-year Food Science Technician program requiring completion of the one-year Quality Control Food Tester program or employment in the food industry. The Agricultural College offers a three-year program in Chemical Laboratory Technology. The University College of Cape Breton offers several programs in this area, including Mineral Technology, Earth Resources Technology with options in Petroleum or Water, Environmental Technology, and Chemical Technology. These programs are either two or three years and may include the cooperative education option. For those wishing to specialize in Meteorology, a four-month, employer-sponsored course is available at the Transport Canada Training Institute in Cornwall, Ontario. Individuals may also receive related training at one of several universities in Nova Scotia offering the Bachelor of Science degree program. Acadia University offers a degree in Science with a specialization in Food Science. This program is four years in length and offers a cooperative education option. Completion of the twelfth grade is required for entry into all of the courses related to these occupations.

**Skills and Aptitudes**

The skills and aptitudes for these occupations are as varied as the entrance requirements. Some jobs require that individuals be exposed to heat, noise, vibration, fumes and dust, while others are in a relatively clean laboratory environment. An aptitude for mathematics and science at the high school level is necessary. An interest in scientific and technical work and the ability to work with detailed processes, machines and techniques are also required. Familiarity with computers is important for some positions.

**Job Prospects**

These workers are mainly employed in research departments within the government sector. Other jobs are in education services and professional business services. Although there is a need for these services, reductions in government spending on research and development may limit the job opportunities. Biochemistry and biotechnology are areas which may present more opportunities. A high degree of skill and knowledge of computers will be beneficial.

**For Further Information**

National Research Council of Canada
Building M-58
Montreal Road
Ottawa, Ontario
K1A 0R6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **410**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$39,000**

# Police occupations

**Typical Occupations**

detective
fingerprinter
police officer
RCMP officer
sheriff

**Nature of the Work**

This occupational group is concerned with the protection of life and property; preservation of the peace; enforcement of federal, provincial, and municipal statutes through investigation and apprehension of offenders; intervention in family or domestic disputes to prevent injury or violation of the law; liaison with social agencies to provide delivery of appropriate services; and liaison with the community to ensure that policing services are delivered in a manner appropriate to the community.

**Requirements**

The Nova Scotia Police Act requires that persons being hired in police positions have successfully completed a Police Science program at the Atlantic Police Academy or an equivalent institution, or have five years prior police experience. Individuals should then make application to individual police departments in which they would like to gain employment. To join the Royal Canadian Mounted Police (RCMP) an individual must be a Canadian citizen, have a valid Canadian driver's license, have no criminal record, have successfully completed the twelfth grade, be physically fit, be nineteen years of age, be willing to transfer anywhere in Canada, and have successfully completed an internal training program.

**Training Paths**

Although there is no direct training available in Nova Scotia for this occupation, the Atlantic Police Academy at Holland College in Prince Edward Island offers a twenty-five-week Police Science program to train police officers. Successful completion of the twelfth grade is required for entrance. The RCMP requires successful completion of a six-month training program which is offered in Regina, Saskatchewan. If individuals who are applying to join the RCMP are interested in learning a second language, a program in Montreal is offered; individuals would then take the training program in Regina after being hired. To apply, individuals should contact the nearest detachment of the RCMP.

**Skills and Aptitudes**

Individuals in these occupations should be aware of age, height and weight guidelines and possess a valid driver's license. Additionally, individuals must be able to give and accept orders, excel in problem solving, make decisions quickly, interact with the public and use common sense at all times. Physical strength and mental stability are also required. Good observational skills and the ability to gain the respect of the public are beneficial.

**Job Prospects**

Towns and cities employ their own police forces, while province-wide policing is a function of the Royal Canadian Mounted Police. Although there is a growing demand for law enforcement, limitations in Government spending may restrict employment growth in this occupation.

Annual earnings are based on the officer's rank and years of service.

**For Further Information**

Police Association of Nova Scotia
P.O. Box 1557
Halifax, Nova Scotia
B3J 2Y3

Recruiting Section
Royal Canadian Mounted Police
P.O. Box 2286
Halifax, Nova Scotia
B3J 1E1

Nova Scotia Police Commission
P.O. Box 1573
Halifax, Nova Scotia
B3J 2Y3

Halifax Police Department
Human Resources Division
1975 Gottingen Street
Halifax, Nova Scotia
B3J 2H1

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

| | |
|---|---|
| * Estimated employment in 1990: | **2,240** |
| * Employment growth between 1990 and 1996 is projected to be: | **Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **220** |

**Unemployment**

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Significantly Below Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$41,000** |

# *Printi[illegible]ing occupations*

**Typical Occupations**
commercial press operator
offset printer
plate engraver
printing shop supervisor
typesetter

**Nature of the Work**
This occupational group is concerned with casting and setting type, fixing printing surfaces on plates or cylinders, chemical engraving, photo-engraving, casting, moulding, and electroplating. Activities may also include operating letter and lithographic presses to print text and illustrations on paper, textiles, metal and other materials; embossing; bookbinding; and related activities. Operating a press can be physically and mentally demanding as press operators are on their feet most of the time. Safe work habits are necessary in these occupations as these individuals are subject to job hazards.

**Requirements**
While there are no formal requirements for individuals entering these occupations, completion of courses in these areas will greatly enhance employment prospects.

**Training Paths**
A number of related programs are available in this field. A program in Offset Printing is offered at two campuses of the Nova Scotia Community College. At Kingstec the program is one year in length and requires successful completion of the tenth grade for entry. Memorial High School offers a three-year program requiring successful completion of the ninth grade for entry. A one-year advanced program in Four-Colour Process Printing is offered at Kingstec requiring at least one full year of work experience in the printing industry or completion of a printing course with a 75% average. The Nova Scotia College of Art and Design offers introductory and intermediate courses in Printmaking. This institution should be contacted for further information on this course.

**Skills and Aptitudes**
Individuals in these occupations should have the ability to work well with their hands. Effective communication skills and the ability to work with others is important. Physical strength may also be an asset to some positions among these occupations as may be the ability to visualize colour.

**Job Prospects**
These workers are employed in printing and publishing industries. Future job growth will depend on the market for such items as newspapers, books, and advertising material.

Most new job openings will be linked to the growth of printing and publishing industries. Growth in the industries may occur because of the increasing use of print media by advertisers; more books, magazines and newsletters being desired by people; and demand for printed material by other countries.

**For Further Information**
Council of Printing Industries of Canada
1908 - 7 King Street East
Toronto, Ontario
M5C 1A2

## NOVA [illegible] CONDITIONS

**Employment**
* Estimated employment in 1990: **340**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$27,000**

# *Surveyors*

**Typical Occupations**
forest mapper
land surveyor
topographic surveyor

**Nature of the Work**
This occupational group is concerned with surveying land surfaces to delineate boundaries and exact locations; describing topographic features and measuring land areas for map-making and construction work; measuring of deformation and satellite positioning; surveying surface and underground features of mines; and surveying sea, river and lake beds. Activities may include chart making, determining navigable channels, and analyzing aerial photographs to prepare or revise topographic maps. Surveyors usually work regular hours; however, during the summer months, they often work longer hours when weather and light conditions are suitable for fieldwork. Surveying requires an above-average measure of physical fitness coupled with a willingness to travel and meet people.

**Requirements**
Cadastral (boundary) surveyors must be registered with the Association of Nova Scotia Land Surveyors; all other surveyors do not have such a requirement.

**Training Paths**
Academic training is available through one of two methods. There is a two-year diploma program in Survey Technology at the College of Geographic Sciences of the Nova Scotia Community College, which also enables advanced standing in the Survey Engineering program at the University of New Brunswick in Fredericton. Alternatively, individuals may go directly into the five-year Survey Engineering degree program at the University of New Brunswick. After the completion of either program, the student who wishes to become a cadastral surveyor must then pass Atlantic Surveyors Board exams, article with a licensed Nova Scotia land surveyor for a period of two years, write exams in Statute and Association Law, and then carry out an assigned retracement survey. The minimum entrance requirement is completion of the twelfth grade. The College of Geographic Sciences also offers one-year certificate programs for those wishing to pursue a career as a survey technician or survey assistant.

**Skills and Aptitudes**
To work in this occupation, individuals should enjoy working outdoors and be physically fit. They should have an aptitude in mathematics and physics at the high school level and be able to perform mathematical calculations quickly. Good health, eyesight and manual dexterity are also necessary.

**Job Prospects**
Surveyors are mainly employed in business offices offering surveying and other technical services. A smaller number are employed in the construction industry and within the Provincial Government. Future employment growth will depend on a number of factors, including the real estate market, government construction projects such as new roads and bridges, and mining activity. Employment may fluctuate from year to year along with construction activity. Little or no growth is expected in government due to cutbacks in spending. Considerable survey activity can be anticipated with increasing activity in offshore development.

**For Further Information**
Association of Nova Scotia Land Surveyors
159 Portland Street, Ste. 301
Dartmouth, Nova Scotia
B2Y 1H9

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **840**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$35,000**

# Management and Administrative Occupations

# *Accountants and other financial officers and managers*

**Typical Occupations**

auditor
bank manager
chartered accountant
financial analyst
income tax consultant

**Nature of the Work**

This occupational group is concerned with performing managerial and administrative duties in banks, credit agencies, investment companies, or similar financial institutions and in departments within industrial, commercial, or government organizations. These individuals may also be employed by financial planning organizations, accounting firms, insurance or brokerage firms, or investment dealers. Activities may include advising decision-makers on business strategy, new products or services, credit and investment policies, and negotiating with financial or other institutions on matters pertaining to the general policy of the organization. Accountants and financial managers often work long and irregular hours, but the salary is usually related to the demands of the position.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **7,510**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **550**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$41,000**

**Requirements**

Entrance into these occupations generally requires a Bachelor's degree in Commerce or Business Administration with a concentration in Accounting or Finance. For senior management positions, a professional accounting designation or a Master's of Business Administration degree is recommended. Senior management positions are usually made available to individuals with a considerable amount of experience and/or seniority in the company. Candidates interested in finance may be required to participate in programs offered by the Institute of Canadian Bankers or Trust Companies Institute. Individuals interested in accounting may choose to specialize in Management Accounting (CMA), General Accounting (CGA), or Chartered Accounting (CA). Each of these areas has a related institution offering training and certification for interested individuals. Those institutions should be contacted for further information.

**Training Paths**

Bachelor's degrees in Commerce or Business Administration may be obtained at most universities in the Province. These programs are generally four years in length. A Master's level degree in Business Administration may be obtained through a two-year program offered at Dalhousie and Saint Mary's universities. Entrance to these programs is based on the completion of a Bachelor's degree and on the score obtained on the Graduate Management Admissions Test. Minimally, the CMA and CGA programs require completion of the twelfth grade. The CMA program is offered as a degree program at Saint Mary's University on campus and through distance education. The CA program requires the completion of a Bachelor's degree and sponsorship by a chartered accounting firm or an office of the Auditor General. The length of these programs may vary from two to six years.

**Skills and Aptitudes**

Individuals should possess good analytical abilities and excellent communication skills, both oral and written.

**Job Prospects**

Job openings in this occupation are affected by economic conditions. For example, high interest rates and inflation usually decrease the level of lending and investing. A number of factors may increase the job openings for financial managers, such as complex changes in the tax system, the growing importance of financial planning, greater emphasis on accurate reporting of financial data, and changing regulations in the financial sector.

Persons employed as financial managers generally work year-round in relatively stable jobs. Most of the jobs in banking appear to be at the entry level as higher level jobs are often filled internally, given to workers with more experience.

The growing use of computer technology in this field will give those with computer skills an advantage in the labour market.

**For Further Information**

Certified General Accountants'
Association of Nova Scotia
P.O. Box 3079
Dartmouth, Nova Scotia
B2W 4Y3

Institute of Chartered Accountants
of Nova Scotia
1791 Barrington Street, Ste. 1101
Halifax, Nova Scotia
B3J 3L1

Society of Management Accountants
of the Atlantic Provinces
Purdy's Wharf Tower II
1969 Upper Water Street, Box 42
Halifax, Nova Scotia
B3J 3R7

Canadian Association of Financial Planners
P.O. Box 8723, Station "A"
Halifax, Nova Scotia
B3K 5M4

Atlantic School of Chartered Accountancy
Suite 706, Cogswell Tower
P.O. Box 489
Halifax, Nova Scotia
B3J 2R7

# *Construction managers*

**Typical Occupations**

bridge and building master
construction operations manager
industrial construction manager

**Nature of the Work**

This occupational group is concerned with activities in management and administration in organizations which are involved in construction, alteration, or repair of buildings and public structures such as highways, railways, bridges, airports and docks. Activities may include developing the operating policies of the company; planning, directing, coordinating and controlling administrative, financial, accounting, personnel, marketing, operational, and estimating functions; developing and maintaining clientele; planning and directing office and general services; and ensuring that all construction specifications are met.

**Requirements**

Although not formally required, a combination of education and extensive work experience is highly recommended.

**Training Paths**

Many individuals in this occupation receive training on the job, although employers are increasingly looking for individuals with formal education. Three to five years of construction experience is generally required for a management position in this industry. A two-year course in Construction Administration Technology is offered at the Institute of Technology of the Nova Scotia Community College. To obtain a general business background, a Bachelor's degree in Commerce or Business Administration may be obtained from most universities in the Province. These programs are generally four years in length and require completion of the twelfth grade for entrance.

**Skills and Aptitudes**

Individuals entering this occupation should possess good interpersonal skills as well as effective oral and written communication skills. Leadership qualities, the ability to motivate individuals, and good organizational skills are essential. Also, a thorough knowledge of construction materials and practices is important.

**Job Prospects**

These workers are employed in the construction industry. Employment may be found in any region of the Province. Employment of construction managers is sensitive to the short-term and seasonal nature of many construction projects. However, during periods such as the winter months when many construction workers are laid off, many construction managers remain employed in their own or other firms. This is because during the winter their work often involves planning, scheduling, or estimating costs of future construction projects.

**For Further Information**

Construction Association of Nova Scotia
P.O. Box 1476 North
5450 Cornwallis Street
Halifax, Nova Scotia
B3K 5H7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **640**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$46,000**

# Education administrators

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,710**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **90**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$58,000**

**Typical Occupations**

business college manager
registrar
school principal
school superintendent
university department head

**Nature of the Work**

Education administrators provide direction, leadership and day-to-day management of educational activities in colleges and universities, elementary and secondary schools, and Community College campuses. Also included are administrators in training and instructional organizations in government, industry, private business and other agencies. These individuals set educational standards and goals, and set up policies and procedures to carry them out. They develop academic programs; hire, train, and motivate teachers and other staff; manage guidance and other student services; administer record-keeping; prepare budgets; handle relations with parents, prospective students, employers, or others outside of education; and perform numerous other activities.

**Requirements**

Most individuals in this occupation begin their careers in other related occupations; their educational background and experience vary considerably. Some educational administrators have held teaching positions while others have held employment in related or junior staff jobs, such as vice principal or financial aid officer.

**Training Paths**

As the educational backgrounds of individuals in this occupation are varied, there are many different training paths. For specific information on training for teachers, consult the descriptions entitled "Teachers, non-university" and "Teachers, university" in this handbook. A Master's degree in Education is offered at four universities in Nova Scotia. This program is usually about one year in length and requires completion of a Bachelor of Education degree plus two years of teaching experience for admission. Dalhousie University also offers a certificate in Educational Administration. The duration of this program varies and applicants must have either graduated from the Nova Scotia Teachers College or have obtained an acceptable undergraduate degree plus a Bachelor's degree in Education.

**Skills and Aptitudes**

Individuals interested in this occupation must exhibit determination, confidence, innovativeness, motivation, and managerial attributes, such as the ability to make sound decisions, to organize and coordinate work efficiently, and to establish good interpersonal relationships with others. Knowledge of management principles and practices gained through work experience and formal education is important.

**Job Prospects**

These individuals are employed mainly in the field of education. Future employment in Nova Scotia may be limited by the decline in the youth population and by restraint in Government spending. However, specialized areas of teaching, such as French immersion, will likely present more opportunities.

**For Further Information**

Nova Scotia Teachers Union
3106 Dutch Village Road
P.O. Box 1060
Armdale, Nova Scotia
B3L 4L7

Nova Scotia Confederation of
University Faculty Associations
1541 Barrington Street, Ste. 204
Halifax, Nova Scotia
B3J 1Z5

# Hotel, motel, and services managers

**Typical Occupations**

health club manager
hotel manager
motel operator
political organizer
restaurant manager

**Nature of the Work**

This occupational group is concerned with performing administrative and managerial activities in organizations which provide protective services; lodging and other accommodation; food and beverages; apparel and furnishings; and other services. Activities may include planning, organizing, directing and controlling. Individuals in these occupations may be required to work evenings and weekends.

**Requirements**

Employers are increasingly requiring that individuals have completed at least a diploma or certificate program to be employed in this area. Some managers may obtain their positions by starting at a lower, entry level position, later moving into supervisory positions, and eventually becoming a manager through this process; however, advancement opportunities increase with more education and training.

**Training Paths**

A four-year program entitled Tourism and Hospitality Management is offered at Mount Saint Vincent University and a three-year program entitled Hospitality Administration is available at the University College of Cape Breton. Completion of the twelfth grade is normally required for entry into these programs. At the diploma level, a two-year program entitled Hotel-Motel Restaurant Management is offered at the I.W. Akerley Campus of the Nova Scotia Community College. Also, three campuses offer a program in Hospitality Services. Completion of the twelfth grade is preferred for the diploma programs. To obtain a general business background, a Bachelor's degree in Commerce or Business Administration may be obtained from most universities in the Province. These programs are generally four years in length and require completion of the twelfth grade for entrance.

**Skills and Aptitudes**

The efficient operation of a hotel requires a wide range of abilities. A hotel manager must have an aptitude for business matters and mathematics. Public relations and communications skills are very important. Problem-solving and decision-making abilities are essential. A hotel manager must be tactful and patient when dealing with a variety of personalities. A second language is an asset.

**Job Prospects**

These workers are generally employed in the accommodation and food services industries, retail trade, business services, and government institutions. Employment prospects will be influenced by the level of tourism and the number of business trips. Economic factors such as the value of the Canadian dollar, interest rates, and gasoline prices will affect tourism and business travel in Nova Scotia.

**For Further Information**

Tourism Industry Association of
Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,990**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **240**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$29,000**

# *Medical and health administrators*

**Typical Occupations**

dietetics director
director of nursing
health records administrator
hospital administrator

**Nature of the Work**

This occupational group is concerned with performing managerial and administrative duties in health agencies and similar establishments such as hospitals, medical clinics and health support services. Individuals in these occupations often work long hours.

**Requirements**

Entrance into these occupations usually requires a Master's degree and/or extensive work experience in either the medical field or in a junior administrative position in a related field.

**Training Paths**

Formal training in these occupations is available at Dalhousie University. A two-year Health Services Administration degree is offered at the Master's level. Entrance into this program requires completion of a Bachelor's degree and good standing on the Graduate Management Admissions Test. Alternatively, a Bachelor's degree plus several years of experience in a related junior administrative position could provide appropriate training for admittance into these occupations.

**Skills and Aptitudes**

Hospital administrators need good managerial skills including the ability to organize, negotiate, motivate, and communicate. They must be able to work well under pressure and make difficult decisions quickly.

**Job Prospects**

Medical and health administrators are employed in hospitals and other health institutions such as nursing homes. A small number are employed in the offices of private health practitioners such as physicians or dentists. There will likely be good opportunities for managers in the nursing home sector as expansion occurs due to the growing number of elderly people who need care. It is expected that nursing homes will need more management personnel to plan new facilities and promote new services and activities.

Cutbacks in Government funding, however, could limit employment in public health care in the Province.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **710**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$49,000**

# *Organization and management consultants*

**Nature of the Work**
This occupation is concerned with reviewing, analyzing and improving business and organizational systems to assist the management team in operating with efficiency and effectiveness. Activities may include conducting organizational studies and evaluations, designing systems and procedures for new work processes, conducting work simplification and measurement studies, and preparing and maintaining systems and procedures manuals. Individuals in this field often specialize in a functional area; some examples are strategic management, marketing and feasibility, production and operations management, and personnel and human resources management.

**Requirements**
A Bachelor's degree in Commerce or Business Administration is recommended for individuals in this occupation. Although formal training for management consultants is not required, employers may stress the need for successful completion of the Certified Management Consultants' certification program.

**Training Paths**
Most universities in the Province offer a four-year Bachelor's degree program in Commerce or Business Administration, requiring successful completion of the twelfth grade for entrance. The Institute of Certified Management Consultants offers a self-study program to individuals employed in the field of management consulting; this course is often sponsored by the employer. This program consists of eight examinations to be completed within a three-year period. Although not compulsory, successful completion of a university degree is preferred for entrance. A two-year Master's degree in Business Administration is offered at Saint Mary's University. Dalhousie also offers a Master's degree in this area as well as in Public Administration. Admission into these Master's level programs requires completion of an undergraduate degree and an acceptable score on the Graduate Management Admissions Test.

**Skills and Aptitudes**
Individuals entering this field should possess an interest in the organization and management of the workplace, whether in the public or private sector. The abilities to think in an analytical and logical manner and to communicate and collaborate well with others is important, as these individuals are often involved in teamwork.

**Job Prospects**
Organization and management consultants are often self-employed. Many also work in management consulting or accougting firms. As well, the government sector and utility industries (i.e., telephone and power) provide employment for these workers.

Employment of these individuals is expected to grow faster than the average for all occupations through the year 2000 as industry and government increasingly rely on their expertise to improve the performance of their organizations. Growth is expected to be concentrated in larger consulting and accounting firms.

**For Further Information**
Institute of Certified Management
Consultants of Canada
1155 René Lévesque Boulevard West
Montreal, Quebec
H3B 2J9

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**
* Estimated employment in 1990: **340**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **80**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$44,000**

# Other managers and administrators

**Typical Occupations**

business manager
farm manager
government administrator
labour mediator
postmaster

**Nature of the Work**

This occupational group includes occupations in senior and middle administration concerned with performing managerial functions such as planning, organizing, directing and controlling in an industrial, commercial, governmental or other organization.

**Requirements**

While individuals who possess a diploma in Business Administration from the Nova Scotia Community College coupled with several years of work experience may receive employment in these occupations, a Bachelor's degree in Business Administration or Public Administration is recommended. Many managers have obtained a degree at the Master's level. Advancement opportunities increase with higher levels of education.

**Training Paths**

Diploma programs in Business Administration are offered at Mount Saint Vincent University and the Université Sainte-Anne. These programs are two years in length. One-year diploma programs are available at three campuses of the Nova Scotia Community College. A four-year Bachelor's degree program in Business Administration or Commerce is available at most universities in the Province. Areas of concentration may vary depending on the area of interest. Mount Saint Vincent University offers a four-year Bachelor's degree in Public Relations, the only degree of its kind in Canada. Completion of the twelfth grade is generally required for entry into these programs. A two-year Master's degree in Business Administration is offered at Saint Mary's University. Dalhousie also offers a Master's degree in this area as well as in Public Administration. Admission into these Master's level programs requires completion of a Bachelor's degree and an acceptable score on the Graduate Management Admissions Test.

**Skills and Aptitudes**

Individuals entering these occupations should possess good interpersonal skills as well as effective oral and written communication skills. Leadership qualities, the ability to motivate individuals, and good organizational skills are essential.

**Job Prospects**

The majority of managers and administrators in this category are employed in government, wholesale and retail trade, and in finance, insurance and real estate.

**For Further Information**

Administrative Management Society
International Chapter
c/o Lambton College
P.O. Box 969
Sarnia, Ontario
N7T 7K4

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **12,910**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **1,210**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$45,000**

# *Personnel managers*

### Typical Occupations

employee relations manager
employment counsellor
industrial relations director
job and wage analyst
staff training officer

### Nature of the Work

This occupational group is concerned with the effective management of the human resources in an organization. Activities may include planning, organizing, directing, controlling, implementing and maintaining policies and programs covering a wide spectrum of personnel specialties. Such specialties include recruitment and selection, human resource development and training, compensation, industrial relations, health and safety, and termination and relocation counselling.

### Requirements

Individuals in this occupation are generally required to have a Bachelor's degree in Business Administration or Commerce. A Master's degree in Business Administration with a concentration in personnel or organizational behaviour is recommended for individuals interested in management positions.

### Training Paths

Degree programs in Business Administration and Commerce are available at most universities throughout the Province and are generally four years in length. Successful completion of the twelfth grade is generally required for entry. A two-year Master's degree in Business Administration is offered at Saint Mary's University. Dalhousie also offers a Master's degree in this area as well as in Public Administration. Admission into these Master's level programs requires completion of an undergraduate degree and an acceptable score on the Graduate Management Admissions Test.

### Skills and Aptitudes

Individuals entering this occupation should possess good interpersonal skills as well as effective oral and written communication skills. The ability to motivate individuals and good organizational skills are essential.

### Job Prospects

The majority of workers in this occupational group are employed in the government sector. Other sources of employment include the larger organizations operating throughout the Province, such as hospitals, manufacturing plants and large retail stores.

Many factors will affect job openings for these trained professionals. Personnel managers are involved in managing requirements for training and retraining in the workplace. As jobs become more complex and technology changes, more workers will require retraining. There may also be a need for more personnel managers because of changes in legislation and regulations relating to standards in occupational health and safety, equal employment opportunity, labour relations and employee benefits.

Most job growth will occur in the private sector as employers try to provide effective training and employee relations programs. A lesser number of job openings will probably be available in public personnel administration due to cutbacks in government spending.

### For Further Information

Canadian Public Personnel Management Association
Nova Scotia Chapter
c/o Dept. of Tourism and Culture
P.O. Box 456
Halifax, Nova Scotia
B3J 2R5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,620**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **90**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$39,000**

# Production managers

**Typical Occupations**
factory superintendent
operations manager

**Nature of the Work**
This occupational group is concerned with managerial and administrative work such as directing and coordinating production departments, divisions, or other organizational units through subordinate managers and supervisors in industrial, commercial, government, or other organizations.

**Requirements**
While there are no formal requirements to work in this occupation, a degree in engineering, science, mathematics, accounting, or business administration would be a definite asset and may be required by certain employers.

**Training Paths**
Some combination of formal education and extensive work experience in an industrial setting would provide the appropriate background to move into a management position. Alternatively, a Bachelor's degree in Industrial Engineering offered at the Technical University of Nova Scotia plus related work experience could lead to a management position. The engineering degree is a five-year program requiring completion of the twelfth grade with a concentration in mathematics and the sciences for entrance. As a third option, a Master's degree in Business Administration is offered at Saint Mary's University. Dalhousie also offers a Master's degree in this area as well as in Public Administration. Admission into these Master's level programs requires completion of a Bachelor's degree and an acceptable score on the Graduate Management Admissions Test.

**Skills and Aptitudes**
Individuals in this occupation should be able to get along well with people, possess strong leadership abilities, and be able to make decisions. Good organizational abilities and a planned approach to projects are essential. Production managers must be able to adapt to technological advances and new production processes.

**Job Prospects**
Production managers are employed across a wide range of industries, but mainly in the larger manufacturing industries, such as rubber manufacturing and food processing. Employment growth will depend on the growth of the economy, the amount of goods exported, and other economic conditions. Employers are located throughout the Province. Jobs in this occupational group are affected by changes in economic conditions because their work is related to the level of production.

**For Further Information**
Scott Maritimes Limited
P.O. Box 549D
New Glasgow, Nova Scotia
B2H 5E8

Bowater Mersey Paper Company Limited
P.O. Box 1150
Liverpool, Nova Scotia
B0T 1K0

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **1,340**

- Employment growth between 1990 and 1996 is projected to be: **Above Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **140**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$48,000**

# Purchasing officers and managers

### Typical Occupations

buyer
procurement officer
purchasing agent

### Nature of the Work

This occupational group is concerned with purchasing goods, materials, or business services for internal use, further processing, or resale in wholesale or retail trade and Government. Activities may include establishing requirements for the organization, interviewing suppliers, negotiating prices, arranging for delivery, consenting to payment of invoices or the return of damaged or unsatisfactory merchandise, and performing other functions directly related to purchasing. Individuals in these occupations may also be involved in performing administrative and managerial functions such as planning, organizing, directing and controlling in Government, industry, business and other agencies concerned with purchasing products or services for resale.

### Requirements

While there are no formal educational requirements for entry into these occupations, employers generally require several years of experience in a purchasing department. Some employers require a university education. For those in management positions, several years of experience as a purchasing officer plus courses in accounting, business law and economics are strongly recommended.

### Training Paths

Training for purchasing officers is usually obtained through three to five years of on-the-job experience in related junior or clerical positions. Individuals usually complete two to four years of on-the-job training and related experience before obtaining a supervisory or management position. Post-secondary correspondence courses may also be taken through the Professional Purchaser Diploma Program offered by the Purchasing Management Association of Canada or the National Institute of Governmental Purchasing. These courses require successful completion of the twelfth grade for entrance (university education is preferred), are taken on a part-time basis, and must be completed within eight years. To obtain a general business background, a Bachelor's degree in Commerce or Business Administration may be earned at most universities in the Province. These programs are generally four years in length and require completion of the twelfth grade for entrance. Individual training in the specific products being purchased is a definite asset.

### Skills and Aptitudes

Purchasing officers and managers need excellent communication, organizational and negotiating skills, along with common sense and initiative. These individuals must be willing to accept new ideas, take risks, make careful decisions, and be knowledgeable about their product or service and the market for which they are doing the buying.

Basic mathematical skills and the ability to analyze detailed information accurately and quickly in order to make decisions is necessary. Familiarity with computers is increasingly important.

### Job Prospects

The Government sector is the largest employer of wholesale and retail trade buyers and purchasers. Other employers include manufacturing and processing plants, hospitals, and education institutions. Job opportunities in this occupational group are affected by changes in business conditions, particularly in manufacturing and processing.

The use of computers has changed the nature of the work but has not eliminated jobs. Computers allow agents and managers to focus on buying decisions instead of routine paperwork.

### For Further Information

Purchasing Management
Association of Canada
P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

### Employment

* Estimated employment in 1990: **900**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

### Unemployment

* The unemployment rate during the third quarter of 1990 was: **Below Average**

### Earnings Potential

* Estimated average annual earnings in 1991: **$32,000**

# Sales and advertising managers

**Typical Occupations**

advertising executive
clothing store manager
marketing manager
public relations director
sales manager

**Nature of the Work**

This occupation involves managerial and administrative work concerned with sales and advertising for department stores and for chains of retail, wholesale and advertising establishments where promoting the sale of commodities and services is of primary importance. Managers in independent businesses who carry out sales and advertising activities on a consulting basis for retail, wholesale and advertising establishments are also included in this group.

**Requirements**

Employers generally require at least several years of experience in a related or junior position. Many employers are increasingly requiring a university education. Advancement opportunities increase with higher levels of education.

**Training Paths**

Training for individuals in a management position is usually obtained through three to five years of on-the-job experience in a related or junior position. To obtain a general business background, a Bachelor's degree in Commerce or Business Administration may be obtained at most universities in the Province. These programs are generally four years in length and require completion of the twelfth grade for entrance. Individual training in the specific products being purchased is a definite asset.

Mount Saint Vincent University offers a four-year Bachelor's degree in Tourism and Hospitality and in Public Relations, the only degree of its kind in Canada. Completion of the twelfth grade is generally required for entry into this program. A two-year Master's degree in Business Administration is offered at Saint Mary's University and Dalhousie University. Admission into these Master's level programs requires completion of a Bachelor's degree and an acceptable score on the Graduate Management Admissions Test.

**Skills and Aptitudes**

Sales and advertising managers need excellent communication, organizational and negotiating skills along with common sense, confidence and initiative. These individuals must be willing to accept new ideas, take risks, make careful decisions, and be knowledgeable about the product or service and the market in which they or their staff are selling or advertising.

Basic mathematical skills and the ability to analyze detailed information accurately and quickly is also necessary. Familiarity with computers is becoming increasingly important.

**Job Prospects**

The vast majority of sales managers are employed in retail and wholesale trade.

**For Further Information**

Nova Scotia Real Estate Association
7 Scarfe Court
Burnside Industrial Park
Dartmouth, Nova Scotia
B3B 1W4

Association of Canadian Advertisers, Inc.
180 Bloor Street West, Ste. 803
Toronto, Ontario
M5S 2V6

Tourism Industry Association of
Nova Scotia
Education and Training Department
1800 Argyle Street, Ste. 513
Halifax, Nova Scotia
B3J 3N8

Canadian Securities Institute
33 Yonge Street, Ste. 360
Toronto, Ontario
M5E 1G4

Insurance Institute of Nova Scotia
1660 Hollis Street, Ste. 803
P.O. Box 1561
Halifax, Nova Scotia
B3J 2Y3

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **9,590**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **1,120**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# *Health Care Occupations*

# *Dental-related occupations*

**Typical Occupations**

dental assistant
dental hygienist
dental laboratory technician
dental technician
denturist

**Nature of the Work**

This occupational group is concerned with supportive work in the field of dentistry and includes: dental technicians who work in laboratory settings and are involved in making, altering and repairing dental devices and dentures; denturists who provide a complete denture service directly to the public; dental assistants who assist dentists in the care and treatment of patients during dental procedures; and dental hygienists who perform the cleaning of patients' teeth.

**Requirements**

Dental hygienists and dental assistants are required to be licensed by the Provincial Dental Board of Nova Scotia. Denturists are required to be licensed by the Denturist Licensing Board of Nova Scotia. Dental technicians must be registered with the Nova Scotia Dental Technicians Association to operate in a laboratory in this Province after completing a four-year apprenticeship (including two years of school) and successfully completing an examination.

**Training Paths**

Training in the area of dental hygiene is provided through a two-year diploma program offered at Dalhousie University. This program requires the completion of one year of university for entrance. Training for denturists is available at the Nova Scotia School of Denturism which is housed at the I.W. Akerley Campus of the Nova Scotia Community College. The program consists of two years of institutional training plus an internship in a licensed clinic. The Institute of Technology offers a one-year certificate program in Dental Assisting and a two-year course in Dental Technology. The minimum entrance requirement for each of these programs is completion of the twelfth grade with a solid academic background in mathematics, English, and the sciences.

**Skills and Aptitudes**

Individuals entering into this field should possess good interpersonal skills and a desire to help people. Manual dexterity with maximum precision is important to work in any of the above occupations. Artistic ability may also be an asset in these occupations.

**Job Prospects**

Denturists often operate their own businesses, however, many also work as employees in established practices. More focus on preventative dental care allows people to keep their teeth longer. This will likely affect the required number of denturists as well as dental laboratory technologists, since they are involved in construction and repair of dental devices.

Dental hygienists usually work in private dentists' offices, although some jobs also exist in schools and hospitals. The size as well as the changing age patterns of the population will affect the required number of dental hygienists. Preventative dental care and treatment of dental disease may make their services more important. Most job openings occur when people leave the occupation as a result of retirement, moving out of province or changing occupations. Wages for dental hygienists will likely continue to be relatively low.

**For Further Information**

Denturist Society of Nova Scotia
6054 Coburg Road
Halifax, Nova Scotia
B3H 1Z2

Nova Scotia Dental Assistants Association
5991 Spring Garden Road, Ste. 604
Halifax, Nova Scotia
B3H 1Y6

Nova Scotia Dental Technicians Association
P.O. Box 623
Halifax, Nova Scotia
B3G 2R7

Nova Scotia Dental Hygienists Association
1472 Tower Road, Apt. 912
Halifax, Nova Scotia
B3H 4K8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,140**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **80**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$22,000**

# Dentists

**Typical Occupations**
dental surgeon
orthodontist
periodontist

**Nature of the Work**
This occupation is concerned with examining, diagnosing, preventing and treating ailments or abnormalities of gums, teeth and related structures. Activities may include diagnosing and correcting abnormalities in the growth, development and positioning of teeth and other dental-facial structures, or replacing missing teeth and correcting irregularities of mouth and jaw to improve speech, eating and appearance. Dentists usually work regular hours, and some may work fewer hours as they grow older.

**Requirements**
Individuals working in this occupation are required to possess a license from the Dental Board of Nova Scotia.

**Training Paths**
The Dalhousie University Dental School offers a four-year program leading to a Doctoral degree in Dental Surgery. Following graduation, the option to undertake post-graduate work is available to those wishing to specialize. Entrance requirements include completion of at least two years of a Bachelor's degree in the sciences, a personal interview, and an acceptable score on the National Dental Aptitude Test. Better than average grades are important, as there is much competition for admission.

**Skills and Aptitudes**
Individuals in this occupation should have good manual dexterity, an aptitude for precise and accurate work, and a reassuring manner to assist people in feeling relaxed. Since most dentists are in private practice, they are called upon to handle the business aspects of running an office in addition to diagnosing and treating dental disease.

**Job Prospects**
Most dentists operate their own practice; however, a growing number are involved in group practice. Some also find employment by teaching in universities. A small percentage enter dental specialties such as orthodontics and periodontics. Factors which will influence the number of required dentists include the size and age structure of the population, preventative dental care, the ability of people to keep their teeth longer, and the availability of dental insurance for patients. Unemployment among dentists is very low, and the occupation is not generally affected by changing economic conditions.

**For Further Information**
Nova Scotia Dental Assistants Association
5991 Spring Garden Road, Ste. 604
Halifax, Nova Scotia
B3H 1Y6

Provincial Medical Board of Nova Scotia
1515 South Park Street, Ste. 3050
Halifax, Nova Scotia
B3J 2L2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **400**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$106,000**

# Dietitians and nutritionists

**Nature of the Work**
The field of dietetics offers many career paths. Clinical dietitians, as members of hospital medical teams, design individualized nutrition programs for people requiring dietary treatment. Community nutritionists develop programs to promote the nutritional well-being of Nova Scotians. Food service administrative dietitians manage food service operations in hospitals, homes for special care, business and industry. Some dietetic professionals work in private practice and provide consulting services in all areas of dietetics. Other options include careers in nutrition education and research. Most dietetic professionals work regular hours; however, those in hospital settings may work evenings, weekends or holidays.

**Requirements**
Individuals working in these occupations are required to be licensed with the Nova Scotia Dietetic Association. Dietitians use the professional dietetic designation, P.Dt., after their name.

**Training Paths**
Training is obtained through a Bachelor's degree in either Dietetics, Nutrition, Food Service Administration, or Home Economics (with a major in Foods and Nutrition). The relevant institutions are Acadia University, Mount Saint Vincent University, and Saint Francis Xavier University. After completion of a Bachelor's degree, the individual must complete a one-year internship at an approved institution or a Master's degree in a related area at an approved institution. The minimum entrance requirement into the Bachelor's programs is completion of the twelfth grade.

**Skills and Aptitudes**
Individuals entering into this field should have a genuine interest in people and healthy lifestyles, and possess ability in leadership, creativity, initiative and sound judgement. Computer skills are also valuable since dietitians use them in many aspects of their work, such as nutritional analyses of food, costing and inventory, and education.

**Job Prospects**
The occupational group of dietitians and nutritionists is not significantly affected by economic factors or technology. While job opportunities in this field have been fairly good, reductions in government spending may limit growth. Job openings will most often occur as a result of people leaving jobs due to retirement, moving out of province or changing occupations. More part-time work may emerge in this field.

**For Further Information**
Nova Scotia Dietetic Association
P.O. Box 8841, Station "A"
Halifax, Nova Scotia
B3K 5M5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **190**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$38,000**

# Dispensing opticians

**Typical Occupations**
eyeglass maker
ophthalmic dispenser
optician

**Nature of the Work**
This occupational group is concerned with arranging for the production of eyeglasses or contact lenses; assisting customers when choosing frames; fitting customers with prescription eyeglasses or contact lenses as well as instructing on procedures for inserting, removing, and cleaning contact lenses. Activities may include arranging for grinding and polishing of lenses. Individuals in this occupation usually work regular hours; however, evening and weekend shifts may be required.

**Requirements**
Dispensing opticians must hold a current Certificate of Registration issued by the Provincial Board of Ophthalmic Dispensers. To qualify, the individual must be twenty-one years of age, provide proof of adequate training and experience, pass a qualifying examination, and pay the prescribed fee.

**Training Paths**
Training for this occupation can be obtained in either one of two ways: completion of an Ophthalmic Dispensing program plus one year of work experience or three years of on-the-job training under the supervision of a more qualified employee plus completion of a home-study course. The Ophthalmic Dispensing program is only available at the Georgian College of Applied Arts and Technology in Barrie, Ontario. This is a two-year course and requires completion of the twelfth grade for entry.

**Skills and Aptitudes**
The work of a dispensing optician demands accuracy and close attention to detail. Individuals in this occupation should enjoy working with people and be patient, approachable and reassuring. Communication skills are highly valued.

**Job Prospects**
Retail optical businesses are the main employer of dispensing opticians; however, some of them are also self-employed. Employment in the occupation is very stable and is not largely influenced by economic conditions. The required number of dispensing opticians will be influenced by the aging population, the tendency of people to purchase extra corrective lenses, more widespread testing of children, and patients' coverage through private insurance plans.

**For Further Information**
Nova Scotia Society of
Dispensing Opticians
P.O. Box 162
Kentville, Nova Scotia
B4N 3V4

Nova Scotia Board of Dispensing Opticians
c/o Ray Dickens, President
Eye World, Mic Mac Mall
21 Micmac Boulevard
Halifax, Nova Scotia
B3A 4N3

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **140**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$25,000**

# Health care attendants

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **3,290**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **190**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$17,000**

**Typical Occupations**

hospital aide
nursing attendant
orderly
personal care worker
ward attendent

**Nature of the Work**

This group includes occupations concerned with providing auxiliary services in the care of patients in hospitals, extended-care facilities, nursing homes, and similar establishments. Activities may include answering patients' call-bells; serving and collecting food trays; feeding patients; bathing and dressing patients; adjusting beds; setting up equipment; sitting with patients; and performing other routine tasks.

**Requirements**

There are no formal educational requirements for individuals in these occupations.

**Training Paths**

Training for these occupations generally takes place on the job; however, a program entitled Personal Care Worker (PCW), jointly sponsored by the Nova Scotia Department of Community Services and Associated Homes for Special Care, is available. Although non-employees may take the PCW course, it must be sponsored by a licensed facility with nursing care and take place in that facility. The time required to complete this course varies according to the availability of the instructor and students.

**Skills and Aptitudes**

Nursing attendants and orderlies should be patient, understanding, and emotionally supportive. They should be able to respond to the patients' needs in a positive and caring manner.

**Job Prospects**

Nursing attendants may be employed in hospitals, nursing homes, or in private residences. Most job openings which occur will be due to people leaving the occupation for various reasons such as retirement, change of job, or moving out of the Province. Technology may have an effect on the skills required in this occupation.

**For Further Information**

Nova Scotia Department
of Community Services
P.O. Box 696
Halifax, Nova Scotia
B3J 2T7

# *Medical and health technicians*

**Typical Occupations**
electrocardiographic (ECG) technician
electroencephalographic (EEG) technician
prosthetist-orthotist
respiratory technologist
ultrasound technician

**Nature of the Work**
This group includes occupations concerned with activities in medicine and health. Activities may include designing, constructing, assembling and fitting prosthetic and orthotic devices; operating inhalation therapy equipment and other hospital equipment; assisting professional staff in clinics, pharmacies, morgues and animal hospitals; sterilizing and packaging hospital supplies; and assisting in preparation of special diet menus. Depending on the size and type of institution, individuals in these occupations may be required to work evenings, weekends and holidays.

**Requirements**
Due to the wide variety of occupations in this group, which include prosthetists, orthotists, electroencephalographic (EEG) and electrocardiographic (ECG) technicians, infection control officers, morgue attendants, and central-supply aides, other informational sources should be consulted in order to determine specific entrance requirements.

**Training Paths**
For many of these occupations, on-the-job training in a hospital or clinical setting is the only means of gaining experience. Some jobs do, however, require formal training at a recognized school. The Victoria General Hospital offers a program in Respiratory Therapy. This course is two years in length and requires completion of the twelfth grade for entry.

There are two accredited schools in Canada which provide training for prosthetists and orthotists: the British Columbia Institute of Technology and George Brown College in Toronto. Two programs are available for interested individuals. The two-year technical program is offered to students who have completed the twelfth grade with courses in Physics and Biology. The Clinical Orthotist/Prosthetist program is also two years in length. It is available to students who have completed the orthotics/prosthetics technical program and to graduates of a Bachelor's degree in Science, Physical Education, Nursing, Engineering, or other related fields who have two years practical experience under the supervision of a certified prosthetist or orthotist. Successful graduates of the technical or clinical program are eligible to write the exams leading to certification. The exams are administered by the Canadian Board for Certification of Prosthetists and Orthotists.

**Skills and Aptitudes**
Individuals in these occupations usually have an interest in medicine and health and have excellent manual dexterity. The ability to deal with people in a mature, professional manner is required. Individuals should also be able to cope with the pressures of working in a hospital environment.

**Job Prospects**
These individuals mainly work in hospitals, although some may obtain employment in clinics. This work is likely to be influenced by technological changes, and people in the occupation should be prepared to keep up to date with technology.

**For Further Information**
Canadian Board for Certification
of Prosthetists and Orthotists
1297 Lewisham Drive
Mississauga, Ontario
L5J 3P8

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **610**

- Employment growth between 1990 and 1996 is projected to be: **Above Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **70**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$25,000**

# Medical laboratory technicians and technologists

**Typical Occupations**
blood bank technician
cytology technician
medical technologist
pharmacy technician

**Nature of the Work**
This occupational group is concerned with performing technological and technical analyses of patient samples within a medical specialization, such as haematology, cytology, histology, clinical chemistry or microbiology, to obtain data for use in the diagnosis, treatment and control of disease. Depending on the size and type of institution, individuals in these occupations may be required to work evenings, weekends and holidays.

**Requirements**
Individuals working in these occupations are required to be certified by either the Canadian Society of Laboratory Technicians or the Canadian Society of Laboratory Technologists (C.S.L.T.). To obtain certification, individuals must successfully complete the C.S.L.T. national examinations.

**Training Paths**
Training in Medical Laboratory Technology and Nuclear Medicine Technology may be obtained through two-year diploma programs offered at the Institute of Technology of the Nova Scotia Community College. Training as a Medical Laboratory Technician is available in the area of cytology (the study of cell samples) through a two-year program offered at the Victoria General Hospital in Halifax. The entrance requirement to each of these programs is successful completion of the twelfth grade with good standing in mathematics, biology and chemistry.

**Skills and Aptitudes**
Individuals entering these occupations should have a genuine concern for others and a tendency toward precision and accuracy with close attention to detail. Good communication skills, manual dexterity, and an ability to work cooperatively with others are important.

**Job Prospects**
Medical laboratory technicians and technologists are usually employed in hospitals, medical laboratories, Government agencies, clinics or universities. Growth in these jobs may be affected by Government spending.

**For Further Information**

Canadian Board for Certification of
Prosthetists and Orthotists
1297 Lewisham Road
Mississauga, Ontario
L5J 3P8

Nova Scotia Society of Medical
Laboratory Technologists
P.O. Box 3102 South
Halifax, Nova Scotia
B3J 3G6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,540**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **130**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$32,000**

# Nursing assistants

**Nature of the Work**
This occupation is concerned with the provision of physical supportive care to patients of all ages within a stabilized nursing situation, under the direction of a registered nurse. The care required by these patients is predictable on a day-to-day basis and is managed by treatment which has predictable outcomes. The nursing assistant is able to recognize deviations from normal, and is able to determine when to report changes in the patient and his/her environment. Duties may include recording temperature, pulse, blood pressure and respiration; bathing and shaving patients; as well as serving and feeding patients. Responsibilities may include providing recreational and therapy programs, and providing supportive services in diagnostic and therapeutic procedures. Individuals in these occupations may be required to work evenings, weekends and holidays.

**Requirements**
Individuals working in these occupations are required to be registered and certified by the Board of Registration of Nursing Assistants.

**Training Paths**
Training for these occupations is available through six campuses of the Nova Scotia Community College. These are one-year programs requiring completion of the tenth grade for admission; however, the twelfth grade is preferred. Following completion of the Nursing Assistants program, individuals must pass a written exam administered by the Board of Registration before they may receive certification to work in Nova Scotia.

**Skills and Aptitudes**
Individuals entering these occupations should enjoy caring for people of all ages in addition to having good communication and interpersonal skills. The ability to follow instructions and a willingness to work under close supervision is also necessary.

**Job Prospects**
People in this occupational group may be employed in hospitals, clinics, nursing homes, rehabilitation centres, long-term care facilities, or private residences.

A number of factors will influence job openings for nursing assistants, such as the increase in the number of older people in the population, the level of government spending in the health field, and increasing technical skills required in nursing care.

**For Further Information**
Nova Scotia Certified Nursing
Assistant Association
Sunnyside Place, Ste. 212
1600 Bedford Highway
Bedford, Nova Scotia
B4A 1E8

Board of Registration of Nursing Assistants
2021 Brunswick Street, Ste. 404
Halifax, Nova Scotia
B2V 1S7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **2,760**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **150**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$22,000**

# Optometrists

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **60**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **N/A**

**Nature of the Work**

This occupational group is concerned with performing vision examinations and additional tests to determine the presence of visual, muscular or neurological abnormalities and eye disease. Activities include prescribing lenses, optical aids, or therapy to enable maximum vision. Optometrists who are self-employed have considerable flexibility in setting hours of work; some may work on evenings or Saturdays to meet the needs of their patients.

**Requirements**

An individual working in this occupation must be licensed as a Doctor of Optometry with the Nova Scotia Association of Optometrists.

**Training Paths**

Training for optometrists is not available in Nova Scotia. A four-year program does exist, however, at the University of Waterloo in Waterloo, Ontario. The minimum entrance requirement is completion of the twelfth grade and at least two years of university education in the field of science, which can be completed at most universities in Nova Scotia; however, it is preferred that candidates complete the program at the University of Waterloo. As the number of spaces in the program for Nova Scotian students is very limited, high marks in all subject areas are strongly recommended. Training in Optometry is also available at the Université de Montreal in Montreal, Quebec. This program is for French-speaking students only.

**Skills and Aptitudes**

Individuals working in this occupation require good eye to hand coordination, an aptitude for precision work, and a pleasant personality when working with patients. Since most optometrists are self-employed, business ability, self-discipline and the ability to deal with patients tactfully are necessary for success.

**Job Prospects**

Optometrists usually operate their own private practice. However, some work in optical franchises or in group practices. Unemployment is not a problem for optometrists. The aging population, patient insurance plans, and Government spending on health will affect the demand for their services.

**For Further Information**

Nova Scotia Association of Optometrists
P.O. Box 2718, Station "M"
Halifax, Nova Scotia
B3J 3P7

# *Osteopaths and chiropractors*

**Nature of the Work**
This occupational group is concerned with diagnosing and treating disorders of the human body, mainly by manipulative methods. Chiropractors utilize manual manipulation of the spine and extremities, exercise, nutrition and physiological therapy in patient care. As most chiropractors are self-employed, they can set their own working hours. Osteopaths are more similar to medical doctors than chiropractors in that osteopaths are able to utilize all other known diagnostic and therapeutic techniques including drugs and operative surgery in addition to manipulative therapy. In British Columbia, osteopaths are fully qualified physicians and surgeons. In British Columbia, Alberta, Quebec and Ontario, these individuals are licensed by the College of Physicians and Surgeons. In Nova Scotia, however, osteopaths are not medical doctors and they are not recognized by the Provincial Medical Board.

**Requirements**
In Nova Scotia, chiropractors are required to be certified by either the Chiropractic Examining Board or the Nova Scotia Board of Chiropractic Examiners. For further information on requirements for those interested in osteopathy outside the Province, the Canadian Osteopathic Association should be contacted.

**Training Paths**
While there is no training available for chiropractors in Nova Scotia, the Canadian Memorial Chiropractic College in Toronto offers a four-year program leading to a Doctoral degree. Two years of a Bachelor's degree in either Biology, Organic Chemistry, Physics or Psychology is the minimum requirement for admission. The college also offers graduate residency programs. There is currently no training available for osteopathic physicians in Canada; however, there are fifteen colleges of Osteopathic Medicine in the United States. Admission is usually based on successful completion of a four-year Bachelor's degree in Science and on the test score obtained on the Medical College Admission Test. These four-year programs in Osteopathic Medicine can be followed by post-doctoral studies if desired.

**Skills and Aptitudes**
An interest in the biological sciences, especially anatomy and physiology, and a genuine interest in the well-being of others are important. Good control of hands and fingers is necessary.

**Job Prospects**
Most chiropractors have their own private practice, although some work in group practices. Economic conditions do not have a large impact on employment. Demand for services may be influenced by the aging population as well as the number of people seeking treatment for muscular, skeletal and nervous system disorders.

**For Further Information**
Nova Scotia Chiropractic Association
16 Loggen Road
Lower Sackville, Nova Scotia
B4E 1V7

Canadian Osteopathic Association
575 Waterloo Street
London, Ontario
N6B 2R2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **20**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **N/A**

# Other health diagnosing and treating occupations

**Typical Occupations**

chemotherapist
chiropodist
naturopath
podiatrist

**Nature of the Work**

This occupational group includes occupations concerned with health diagnosis and treatments. Chiropodists are mainly concerned with easing pain in the feet. Podiatrists are involved in some of these same activities and, in addition, are able to take X-rays, prescribe drugs, administer local anaesthetics and perform foot surgery. Naturopaths treat body disorders by a system based on natural laws governing the body and rely on diet and exercise as main therapy techniques.

**Requirements**

Chiropodists must complete a three-year course in Chiropody after obtaining a high school completion certificate, while podiatrists are required to have a degree in Podiatric Medicine after successful completion of a Bachelor's degree and be registered with the Canadian Podiatry Association. Podiatrists primarily work in Ontario, Alberta and British Columbia. There are no licensed podiatrists in Nova Scotia.

**Training Paths**

A three-year diploma program in Chiropody is offered at George Brown College in Ontario and requires the completion of the twelfth grade for admission. Podiatrists can only receive post-graduate training in the United States through a four-year degree program. At least two years of a Bachelor's degree is required for admission into this specialized program.

**Skills and Aptitudes**

Individuals in these occupations should have an interest in science and medicine. Good manual dexterity and a desire to help people are also necessary. Personal qualities such as confidence, patience and good communication skills as well as a good business sense are recommended.

**Job Prospects**

People working in this occupational group often operate their own private practices. The aging population as well as the requirement for specialized or alternative treatments are factors which may affect the number of jobs. The occupational group is not largely affected by changing economic conditions.

**For Further Information**

Canadian Podiatry Association
2 Sheppard Avenue East, Ste. 900
Willowdale, Ontario
M2N 5Y7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **130**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# Pharmacists

**Nature of the Work**

This occupation is concerned with compounding and dispensing pharmaceuticals in hospitals and retail outlets. Pharmacists advise health professionals and the public on the proper selection and use of medicines. Activities include filling prescriptions, patient counselling and patient drug regime analysis. Pharmacists spend much of their time standing and often have to work evenings, weekends and holidays.

**Requirements**

Individuals working in this occupation are required to possess a license from the Nova Scotia Pharmaceutical Society. A Master's degree or Doctoral degree is required for research positions and often required for administrative positions.

**Training Paths**

Training in this field is offered at Dalhousie University through a four-year Bachelor of Science degree program in Pharmacy. The minimum entrance requirement is completion of one year of university and an acceptable score on the Pharmacy College Admission Test.

**Skills and Aptitudes**

Individuals entering this occupation should have an interest in chemistry, enjoy performing detailed work, and have good oral communication skills. Computer skills are becoming increasingly more important in this field.

**Job Prospects**

Most pharmacists work in drug stores or pharmacies and many are self-employed. Pharmacists are also employed in hospital pharmacies. Most job openings occur when people leave the occupation for various reasons such as retirement or moving out of the Province. Management and supervisory skills are an asset for pharmacists who operate their own retail pharmacy.

**For Further Information**

Pharmacy Association of Nova Scotia
P.O. Box 3214 South
Halifax, Nova Scotia
B3J 3H5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **720**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **70**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$45,000**

# *Physicians and surgeons*

**Typical Occupations**
anaesthetist
cardiologist
general practitioner
pediatrician
psychiatrist

**Nature of the Work**
This occupational group is concerned with preventing, diagnosing and treating human illnesses. Activities may include administering medical examinations; prescribing and providing treatment for diseases, disorders and injuries; performing surgical operations in the treatment of injuries, diseases, and disorders of the human body; and performing related tasks. Physicians who practice alone or in small groups tend to work long and irregular hours.

**Requirements**
Individuals working in these occupations are required to possess a license from the Provincial Medical Board of Nova Scotia.

**Training Paths**
The Dalhousie University Medical School offers a four-year program leading to a Doctor of Medicine degree. In all provinces, with the exception of Quebec, the basis for licensure for the majority of trainees is successful completion of the two-part qualifying examination of the Medical Council of Canada plus certification by either the College of Family Surgeons of Canada or the Royal College of Physicians and Surgeons of Canada. For trainees unable to enter programs or complete certification in family medicine or a specialty, the Medical Council of Canada examination plus a 24-month period of multidisciplinary training (content to be defined in the near future) will be required before a license to practice medicine is granted. As there is much competition for entry into this program, strong academic standing in all subject areas is very important.

**Skills and Aptitudes**
Individuals in these occupations should possess warmth and sympathy, and have an interest in people as well as a strong grasp of scientific principles and their application to medical problems. Emotional stability, intellectual curiosity, social values, initiative, and maturity are necessary personal characteristics. Physicians have to take final responsibility for their decisions and the consequences they have on patients' lives. Good communication skills are also important.

**Job Prospects**
Physicians and surgeons work in the health and social services sector in general practice, clinics, and hospitals. Most doctors are self-employed or work with other doctors and specialists in group practices. There is a relatively high demand for physicians in rural areas of the Province. However, employment is generally available wherever doctors decide to practice. The growth in the number of older people in the population, and new medical techniques and treatments, will affect the number and type of physicians required.

**For Further Information**
Faculty of Medicine
15th Floor
Sir Charles Tupper Building
College Street
Halifax, Nova Scotia
B3H 4H7

Provincial Medical Board of Nova Scotia
1515 South Park Street, Ste. 3050
Halifax, Nova Scotia
B3J 2L2

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **1,810**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$119,000**

# *Physiotherapists and occupational and speech therapists*

**Typical Occupations**

audiologist
occupational therapist
physiotherapist
speech therapist

**Nature of the Work**

This occupational group is concerned with assisting individuals of all ages with physical, psychological and mental disabilities as a result of illness and/or injury to maintain their level of independence in day-to-day activities. This intervention process involves planning, assessment, treatment, evaluation and counselling to promote health, restore function, and maintain ability. Physiotherapists primarily use physical or mechanical means which may include heat, water, light, sound, exercise and massage. Occupational therapists use function-based activities focused on work, school, self-care and leisure which may include counselling, simulated experiences and technical devices. Speech-language pathologists serve individuals with disorders of communication, such as in language, speech, voice and fluency. Audiologists serve individuals with hearing dysfunctions. Most individuals in these occupations work regular hours, usually in medical and educational settings.

**Requirements**

Individuals working in these occupations are required to possess a Bachelor's degree in either Physiotherapy or Occupational Therapy, or a Master's of Science in either Speech Pathology or Audiology. Occupational therapists are required to pass the National Registry Examination administered by the Canadian Association of Occupational Therapists.

**Training Paths**

Training is provided at Dalhousie University through a four-year Honours Bachelor of Science degree program in either Physiotherapy or Occupational Therapy, and a three-year Master's in Science program in Speech Pathology and Audiology. The entrance requirement into the Bachelor level program is completion of the twelfth grade plus one year of university study, usually in the area of science. The Master's level program requires completion of a Bachelor's degree, preferably in the area of science or health. As there is much competition to enter into these programs, strong academic standing in all subject areas is important.

**Skills and Aptitudes**

Individuals in these fields should possess good interpersonal skills, personal warmth, sensitivity and creativity. It is necessary to have ingenuity and imagination in adapting activities to individual needs. A strong sense of responsibility and the ability to motivate patients is important.

**Job Prospects**

A large number of physiotherapists, occupational and speech therapists work in hospitals and other treatment centres. Some are also employed by school boards or in their own private practices. Increasing attention to the needs of the disabled and elderly will affect job openings for this occupational group. However, decreased spending in health care will also have an impact.

**For Further Information**

Nova Scotia Society of
Occupational Therapists
P.O. Box 3381 South
Halifax, Nova Scotia
B3J 3J1

Nova Scotia College of Physiotherapists
5991 Spring Garden Road, Ste. 550
Halifax, Nova Scotia
B3J 1Y6

Speech and Hearing Association of
Nova Scotia
P.O. Box 775, Station "M"
Halifax, Nova Scotia
B3J 2N2

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **550**

- Employment growth between 1990 and 1996 is projected to be: **Above Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$36,000**

# Radi[illegible] technologists

**Typical Occupations**
nuclear medicine technologist
radiographer
radiological technologist
X-ray technician

**Nature of the Work**
This occupation is concerned with the installation, operation, and maintenance of X-ray equipment used in diagnostic and therapeutic applications. Duties may include applying radioactive substances to patients for diagnostic and therapeutic purposes under the supervision of a physician. Depending on the size and type of institution, individuals in this occupation may be required to work evenings, weekends and holidays.

**Requirements**
Individuals working in this occupation are required to be registered with the Canadian Association of Medical Radiation Technologists.

**Training Paths**
Training can be obtained through one of several programs: Radiography Technology offered at the Halifax Infirmary Hospital and at the Victoria General Hospital; Radiation Therapy at the Cancer Treatment and Research Foundation; and Nuclear Medicine Technology at the Institute of Technology of the Nova Scotia Community College in conjunction with the above-mentioned hospitals. Each of these programs are two years in length and require successful completion of the twelfth grade for entrance.

**Skills and Aptitudes**
Individuals in this occupation should be able to handle stressful working conditions, possess a strong sense of responsibility, exercise patience and courtesy with patients, and be willing to keep abreast of new advances in the field.

**Job Prospects**
Most radiographical technologists are employed in hospitals or other treatment centres. Employment will likely be affected by the increase of older people in the population. Changes in technology may also affect the type of skills and specialization required in the field.

**For Further Information**
Nova Scotia Association of
Medical Radiation Technologists
Comp. 19, Fenerty Road
R.R. #2
Lower Sackville, Nova Scotia
B4C 2S7

## NOVA [illegible] [illegible] CONDITIONS

**Employment**
- Estimated employment in 1990: **360**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$34,000**

# Registered nurses

## NOVA SCOTIA LABOUR MARKET CONDITIONS

### Employment

- Estimated employment in 1990: **9,790**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **930**

### Unemployment

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

### Earnings Potential

- Estimated average annual earnings in 1991: **$33,000**

### Typical Occupations

community health nurse
critical care nurse
occupational health nurse
outpost nurse
private duty nurse

### Nature of the Work

This occupational group involves caring for people and has a focus on health promotion, prevention of illness and caring for the ill. The goal of nursing is health-oriented even in the care of the sick. Many registered nurses work in hospital settings. These nurses work in highly complex technical settings which require immediate responses to unstable conditions. Nurses in these situations provide extensive support and education to patients and their families. Registered nurses who work in the community focus on health education, lifestyle change, early childhood health, and stress management. They help people deal with daily health problems and work to identify and decrease health risks. Nursing care for the chronically ill provides support and teaches self-care to patients and their families to promote maximum independence of the individual. Responsibilities may include supervising and coordinating the activities of personnel engaged in nursing and related tasks. Nurses usually have to work shifts, including evenings, weekends and holidays.

### Requirements

Minimally, individuals are required to obtain a diploma in Nursing as well as an acceptable score on the Registered Nursing Examinations (RNs). However, without a Bachelor's degree in Nursing, advancement opportunities to a supervisory or management position will be limited. Nurses in Nova Scotia are required to be registered with the Registered Nurses Association of Nova Scotia.

### Training Paths

There are two training paths for this occupation. A two-year diploma program is offered at seven schools of nursing throughout Nova Scotia. Individuals must write an aptitude test and perform well in an interview for admission into the program. Alternatively, Dalhousie University and St. Francis Xavier University offer a four-year Bachelor's degree in Nursing. Each of the above paths involves a combination of in-class theory training and experience in a practical setting. Completion of the twelfth grade with five university preparatory courses including mathematics, chemistry and biology, is required for entrance. Following successful completion of a degree or diploma program, the graduate nurse is then eligible to write the RNs. Dalhousie also offers a Master's degree in Nursing for those who have completed their Bachelor's degree.

### Skills and Aptitudes

Individuals entering into this occupation should have excellent communication and interpersonal skills, good physical endurance, emotional stability and a desire to respond to the emotional, physical and sociological needs of people. They should also have the ability to think critically and creatively.

### Job Prospects

Although most nurses work in hospitals, many also obtain employment in nursing homes, rehabilitation centres, long-term care facilities, community organizations, doctors' offices, schools and patients' homes. Opportunities exist to specialize in a number of different areas of health care such as surgery, intensive care, psychiatry, emergency care and maternity care.

A number of factors will influence job openings for nurses, such as the increase in the number of older people in the population, the tendency to have registered nurses on staff in health care facilities, and the increasing number of technical skills required in nursing care. The level of Government spending in the health field will also have an impact on this occupation.

### For Further Information

Registered Nurses' Association of
Nova Scotia
Central Application Centre
6035 Coburg Road
Halifax, Nova Scotia
B3H 1Y8

# Scientists, Engineers, and Other Professional Occupations

# Aeros[illegible]

**Typical Occupations**
aircraft engineer
flight analyst
test engineer

**Nature of the Work**

This occupational group is concerned with the research, design, development, manufacture, and maintenance of aerospace vehicles and equipment. Duties may include aerodynamic design, flight testing, and structural and thermodynamic testing. Engineers develop new technologies in commercial aviation, defence systems, and space exploration. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. Training in this field of engineering is not available in Nova Scotia; however, there is a program at the University of Toronto. The minimum entrance requirement is completion of the twelfth grade with a strong standing in mathematics, physics, and chemistry. Completion of at least one year of university before making application is recommended. Knowledge of computers is an asset.

**Skills and Aptitudes**

Individuals entering into this occupation should possess an interest in engineering design, problem solving, and technology. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork.

**Job Prospects**

Most of workers in this occupation are employed in aircraft and parts manufacturing, and air transportation industries. The number of new job openings for aerospace engineers will depend on the prosperity of the airline industry which, in turn, is dependent on business conditions. The need for quieter and more fuel efficient aircraft and advanced technology may increase the number of jobs for these individuals.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

## NOVA [illegible] CONDITIONS

**Employment**

* Estimated employment in 1990: **60**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$42,000**

# Agrologists

**Typical Occupations**

agricultural scientist
agriculturalist
agronomist
animal scientist
soil scientist

**Nature of the Work**

This occupational group is concerned with conducting research, advising farmers, or teaching farming practices. Agrologists may be involved in product testing, analysis of farm inputs, appraisals, finances, engineering, inspection, and information services. Because often the primary clients are farmers, irregular hours are typical. Agrologists may also be referred to as agriculturalists or agricultural scientists. The hours of work for these individuals are generally regular and they are usually found in offices and laboratories; however, some conduct fieldwork and onsite studies.

**Requirements**

Individuals working in this occupation must possess a Bachelor's degree in this field and be registered with the Nova Scotia Institute of Agrologists. A Bachelor's degree is adequate for many sales, production management, inspection, and other non-research jobs; however, in some cases, promotion may be limited without further education or training. Many in this field possess their Master's degree or Doctorate.

**Training Paths**

Training for agrologists in this Province is available at the Nova Scotia Agricultural College. A four-year degree program leading to a Bachelor of Science in Agriculture is offered with specializations in Agricultural Chemistry, Agricultural Economics, Agricultural Mechanization, Agricultural Soils, Animal Sciences, Plant Protection and Plant Sciences. Completion of the twelfth grade with an emphasis on science and mathematics is required for entrance.

**Skills and Aptitudes**

Agrologists may work independently, but are more likely to be part of a team. The ability to communicate well, both orally and in writing, is important. A farming background is helpful but not essential.

**Job Prospects**

The Provincial Government is the main employer of agrologists. Other industries of employment include agriculture, logging and forestry, and education. Increased environmental concerns may lead to more job opportunities for these professionals. Most job openings will occur as a result of the replacement of workers who leave the job due to retirement or a change of occupations. Highly skilled professionals with a knowledge of computers will be required.

**For Further Information**

Nova Scotia Institute of Agrologists
N.S. Department of Agriculture and Marketing
Agriculture Centre
Kentville, Nova Scotia
B4N 1J5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **300**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$47,000**

# Archit[illegible]

**Typical Occupations**
building architect
landscape architect
landscape designer
marine architect

**Nature of the Work**
This occupational group is concerned with the design and construction of buildings and related structures, the aesthetic landscaping of parks, road development and other projects. Activities may include designing; developing plans, specifications, and detailed drawings; arranging contracts; and exercising general supervision over construction. Architects generally work in offices; however, they may also work at construction sites, reviewing the progress of projects. Working evenings and weekends may be required to meet deadlines.

**Requirements**
Individuals in this occupation must be registered with the Nova Scotia Association of Architects in order to practice.

**Training Paths**
The Technical University of Nova Scotia offers a three-year Bachelor of Environmental Design Studies (B.E.D.S.) degree. Admission requirements include the completion of at least two years of university study in any recognized program with at least one mathematics course, which also implies completion of the twelfth grade. A Master of Architecture degree is also offered at this university. This is a two-year degree requiring the completion of the B.E.D.S. program for admission. Pre-architectural programs are offered at five universities throughout the Province and are generally accepted as the first two years towards entrance into the B.E.D.S. program. The Technical University also offers a Master's degree in Naval Architecture, which is twelve to twenty months in length. An alternate method of training requires a person to spend at least 10 years in continuous employment with architects. The potential architect must complete several correspondence courses in addition to training on the job. This method of preparation is not common in Nova Scotia but is practised in areas where access to architectural schools is limited.

**Skills and Aptitudes**
Individuals in this occupation should be interested in art and design, and enjoy detailed, precise work. The ability to visualize in three dimensions and draw accurately is important. Contrary to what many believe, persons planning a career in architecture do not necessarily need a high level of artistic or drawing ability.

**Job Prospects**
Most architects are employed in the offices of professional businesses, while some are employed in government services. As architects are involved in the design of buildings that are to be constructed, the level of planned construction affects the number of jobs for these workers. Investments to build office buildings, shopping centres and other industrial structures have a direct impact on the need for architectural services. Construction is sensitive to cyclical changes in the economy. During recessions or periods of slow growth, architects will face competition for job openings or clients, and layoffs may occur. Cutbacks in government spending could mean fewer jobs in government services.

**For Further Information**
Nova Scotia Association of Architects
1361 Barrington Street
Halifax, Nova Scotia
B3J 1Y9

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **180**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **$44,000**

# *Biologists and related scientists*

**Typical Occupations**

biochemist
botanist
ecologist
marine biologist
zoologist

**Nature of the Work**

This occupational group is concerned with conducting basic and applied research into all forms of living organisms and vital processes, and their relationships to each other and to their environment. Activities include studying the origin, development, growth, reproduction, structure, function, distribution and other life phenomena of a single species or community of species. This group includes scientists from many fields, such as biology, medicine, botany, and zoology. Individuals in these occupations generally work regular hours in offices and laboratories; however, some conduct fieldwork and onsite studies.

**Requirements**

Individuals in these occupations are generally required to hold a Master's or Doctoral degree in Biology or a related field.

**Training Paths**

A Bachelor's degree in Biology is generally required for entry into a Master's or Doctoral program. Three and four-year Bachelor of Science programs with a major in Biology are offered at most universities throughout the Province. Dalhousie University offers four-year Bachelor of Science programs in Biochemistry, Marine Biology, Microbiology and Oceanography. The University of King's College also offers programs in Biochemistry and Microbiology. A four-year Bachelor of Science degree in Agriculture with specializations in Animal Science, Plant Protection and Plant Science is available at the Nova Scotia Agricultural College. Also at the Bachelor's level, Acadia University offers a degree in Science with a specialization in Food Science. This program is four years in length and offers a cooperative education option. Each of the above programs require completion of the twelfth grade with an emphasis on mathematics and the sciences for admission. A two-year Master's degree in Science with a major in Biology or other related areas may be completed at Acadia, Dalhousie or St. Francis Xavier universities. Dalhousie also offers a two or three year Master's degree in Environmental Studies. A Doctoral degree in Biology is available at Dalhousie and requires at least two years to complete. Both the Master's and Doctoral programs require completion of a Bachelor's degree in Biology or a related field for entry. Post-doctoral training programs in Clinical Chemistry are also available at Dalhousie.

**Skills and Aptitudes**

Individuals interested in these occupations should be comfortable working with instrumentation, chemicals and biochemicals; have effective communication skills; and be able to demonstrate judgement in terms of scientific and administrative decision-making. Basic computer and mathematics skills are also assets. Those doing field research in remote areas must have physical stamina.

**Job Prospects**

Biologists and related scientists are primarily employed in research offices in government, university laboratories, and in laboratories involved in medical research. Future employment in this profession will depend largely on government spending on biological research and post-secondary education. Job prospects may increase as expansion in environmental protection and waste management occurs.

**For Further Information**

Canadian Federation of Biological Societies
360 Booth Street
Ottawa, Ontario
K1R 7K4

Medical Research Council of Canada
Jeanne Mance Building, 20th Floor
Tunney's Pasture
Ottawa, Ontario
K1A 0W9

Canadian Society of Zoologists
c/o University of Alberta
Department of Zoology
Edmonton, Alberta
T6G 2E9

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **350**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$42,000**

# *Chemical Engineers*

**Typical Occupations**

food technology engineer
industrial waste treatment engineer
liquid fuels engineer
petrochemical engineer
pulp and paper engineer

**Nature of the Work**

This occupational group is concerned with the research, design, development and operation of manufacturing processes in which chemical and/or physical changes occur; and the supervision of the construction, operation and maintenance of chemical plant equipment. They design equipment and plants, determine and test methods of manufacturing the products, and supervise production. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

Chemical engineers are often leaders in the areas of engineering safety and environmental assessments. Whether involved in chemical process engineering design or chemical process plant operations, the chemical engineer is expected to safeguard the public and the environment by ensuring that the processes can and do operate in a safe and reliable manner.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The Engineering degree can only be obtained in Nova Scotia through the five-year Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics, and chemistry.

**Skills and Aptitudes**

Individuals entering this occupation should possess an interest in the use and application of chemicals in process industries such as petrochemicals and pulp and paper. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

Chemical engineers working in Nova Scotia are employed in industries involved in plastic manufacturing, petroleum refining, and pulp and paper. The Provincial Government also employs a small number of these workers. There is a possibility for employment growth in the petroleum refining industry with the development of oil projects off the coast of Newfoundland and Nova Scotia.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Society for Chemical
and Engineering Technology
1785 Alta Vista Drive, Ste. 300
Ottawa, Ontario
K1G 3Y6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **80**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$60,000**

# *Chemists*

**Typical Occupations**

agricultural chemist
chemical food analyst
industrial chemist
pharmaceutical chemist
research chemist

**Nature of the Work**

Members of this occupational group conduct research to broaden the knowledge of the science of chemistry; conduct applied research to produce new or improved materials for commercial purposes; work in teams involved in product control and process design and improvement; and are involved in technical sales and management. Activities include developing analytical methodologies and techniques, and performing quantitative and qualitative analysis and experiments in organic, inorganic and physical chemistry, and in related areas such as agricultural chemistry, biochemistry, clinical chemistry and geochemistry. Depending on the nature of the work, chemists may work in either laboratories or offices. Many work regular hours; however, in professional positions (executive, research and teaching) one needs to spend some evenings and weekends on professional activities.

**Requirements**

The basic minimum requirement is a Bachelor's degree. For more advanced positions in research and post-secondary teaching, a Master's or Doctoral degree in a specialized field of chemistry is required.

**Training Paths**

A Bachelor's degree in Chemistry is required for entry into the Master's and Doctoral level programs. Most universities offer Bachelor of Science degree programs with a major in Chemistry. The length of these programs ranges from three to four years. The Nova Scotia Agricultural College offers a four-year Bachelor of Science degree in Agricultural Chemistry and Agricultural Soils. Each of the above programs require completion of the twelfth grade with a high standing in mathematics and chemistry. Also at the Bachelor's level, Acadia University offers a degree in Science with a specialization in Food Science. This program is four years in length and offers a cooperative education option. Dalhousie University offers a Master's and Doctoral degree in this area requiring a related Bachelor's degree for entrance. A Master's degree in Chemistry is offered at Dalhousie, Acadia and St. Francis Xavier universities. Post-doctoral training in Clinical Chemistry is offered at Dalhousie.

**Skills and Aptitudes**

Chemists should be comfortable working with delicate instruments. They must be precise and accurate in their work. Basic computer skills are also an asset. Perseverance, curiosity, and the ability to concentrate on detail and to work independently are essential. Communication skills, both oral and written, are important.

**Job Prospects**

Chemists are employed in industrial and government research agencies, laboratories dealing with manufacturing and processing, hospital laboratories, and professional businesses offering scientific and technical services. Chemists may also find employment as high school teachers and college or university professors. The employment outlook for chemists may increase with more emphasis being placed on research in an effort to develop better products and more efficient production processes. Also, large and small firms often in the environmental and waste management business are beginning to hire these individuals, which should further increase the number of job opportunities.

**For Further Information**

Canadian Society for Chemistry
130 Slater Street, Ste. 550
Ottawa, Ontario
K1P 6E2

Nova Scotia Society of Clinical Chemists
5788 University Avenue, Ste. 616
Halifax, Nova Scotia
B3H 1V8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **180**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$46,000**

# Civil engineers

**Typical Occupations**

bridge engineer
construction engineer
environmental engineer
public works engineer
survey engineer

**Nature of the Work**

This occupational group is concerned with the planning, design and supervision of the construction and maintenance of buildings, bridges, dams, tunnels, ports, docks and other structures; water supply and sewage systems; transportation; and other facilities for public, industrial or commercial use. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The engineering degree can only be obtained in Nova Scotia through the five-year Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics, and chemistry.

**Skills and Aptitudes**

Individuals in this occupation should possess an interest in the planning and designing of buildings, bridges and dams. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

Civil engineers are most often employed in professional businesses, the construction industry and the Federal Government. In addition, jobs exist at other levels of government and in other industries such as transportation. With population growth and an increasing number of people moving to cities, there will be a need for more civil engineers to design and construct transportation systems (such roads and bridges), water resource and disposal systems, large buildings, and other structures. More civil engineers will also be needed to repair or replace existing roads, bridges, and other public structures. However, employment for civil engineers is sensitive to changes in general economic conditions.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Society for Civil Engineering
2050 Mansfield Street, Ste. 700
Montreal, Quebec
H3A 1Z2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **1,070**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **90**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$50,000**

# Community planners

**Typical Occupations**
environmental planner
land use planner
recreation planner
rural planner
urban planner

**Nature of the Work**
This occupational group is concerned with developing comprehensive plans and programs for the utilization of land and physical facilities in rural and urban areas. Duties may involve preparing and presenting narrative and graphic program plans to municipal and industry authorities and recommending measures affecting land use, public utilities, community facilities, housing and transportation to control and guide community development and renewal.

**Requirements**
Individuals in this occupation are generally required to hold a Bachelor's degree in a related discipline.

**Training Paths**
A number of related programs are available in Nova Scotia. Bachelor level degrees are available in Environmental Planning at the Nova Scotia College of Art and Design; and at the graduate level through the Master of Urban and Rural Planning program at the Technical University of Nova Scotia (TUNS). These programs are four and two years in length, respectively. The Bachelor's program requires the completion of two successful years of university, while the Master's program requires completion of a Bachelor's degree in a related area. The relevant institutions should be contacted for further information regarding entrance requirements.

**Skills and Aptitudes**
Planners must have good spatial perception and be able to visualize the effects of their plans and designs. They should be flexible and able to accommodate different viewpoints to make constructive recommendations. The ability to communicate ideas in both oral and written form is important. The ability to work well with others is also necessary as planners are often involved in teamwork. Knowledge of computers and analytical methods is an asset.

**Job Prospects**
Community planners are primarily employed by Government, particularly at the municipal level. There are, however, a number employed in the services industry who provide professional services to private businesses.

**For Further Information**
Atlantic Planners Institute
P.O. Box 130
Fredericton, New Brunswick
E3B 4Y7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **160**

- Employment growth between 1990 and 1996 is projected to be: **Above Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$44,000**

# *Economists*

**Typical Occupations**

agricultural economist
development economist
financial economist
labour economist
price analyst

**Nature of the Work**

This occupational group is concerned with studying the ways a society uses scarce resources such as land, labour, raw materials, and machinery to produce goods and services. They analyze the costs and benefits of distributing and consuming these goods and services. Activities may include developing models to illustrate and forecast economic behaviour and patterns; planning methods for gathering and analyzing economic statistical data; and preparing reports, estimates and forecasts.

**Requirements**

A Master's degree in Economics is generally specified as the prerequisite for gaining employment in this occupation.

**Training Paths**

Most universities in Nova Scotia offer a three- or four-year Bachelor of Arts degree in Economics and a four-year Bachelor of Business Administration/Commerce degree in Economics. The University of King's College and St. Francis Xavier University offer a Bachelor of Science in Economics. A Bachelor of Science in Agricultural Economics is available at the Nova Scotia Agricultural College. Each of the above programs requires completion of the twelfth grade for admission. Master's level programs in Economics are available at Dalhousie University and Acadia University. These are two-year programs that require the completion of a Bachelor's degree in Economics for entrance. Dalhousie also offers a two-year Master's degree in Developmental Economics.

**Skills and Aptitudes**

Individuals in this occupation should possess good mathematical and analytical abilities. Excellent communication skills, both oral and written, are also required. Knowledge of computers would be an asset.

**Job Prospects**

Economists working in Nova Scotia are usually employed in consulting firms or in government. Restraint by Federal and Provincial Governments may limit new employment opportunities in the future. Knowledge of computer systems and quantitative methods will be an asset for those seeking jobs in this occupation.

**For Further Information**

Atlantic Provinces Economic Council
5121 Sackville Street, Ste. 500
Halifax, Nova Scotia
B3J 1K1

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **320**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **40**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$45,000**

# *Electrical engineers*

**Typical Occupations**
circuit design engineer
computer communications engineer
power systems engineer
process control engineer
telecommunications engineer

**Nature of the Work**
This occupational group is concerned with the design, construction, maintenance and repair of systems which generate, transmit, distribute, control and utilize electric energy; research into electrical engineering problems and development of electrical and electronic products; and provision of technical direction in the manufacture of a wide variety of electrical and electronic equipment. Electronic equipment includes radar, computers, communications equipment, television sets, and stereo components. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**
Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**
The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The Engineering degree can only be obtained in Nova Scotia through the five-year Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics, and chemistry.

**Skills and Aptitudes**
Individuals in this occupation should possess an interest in the design and operation of electrical systems and equipment relating to computers, communications, telecommunications, electronics and power systems. The ability to think in an analytical and logical manner, and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers would be an asset.

**Job Prospects**
Although electrical engineers are mainly employed in companies providing utility services such as telephone, heat and power, there are some jobs available in government and in manufacturing industries.

More job openings will likely occur as electrical and electronic equipment are used more often. There is a growing use of computers and communications equipment by businesses and government and more people today use electrical and electronic equipment in their homes. Industrial research relating to computers, robotics, and other types of automation should also create additional jobs. However, cutbacks in Government spending could result in layoffs of electrical engineers.

**For Further Information**
Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Society for Electrical and
Computer Engineering
2050 Mansfield Street, Ste. 700
Montreal, Quebec
H3A 1Z3

Institute of Electrical and
Electronics Engineers Inc.
Atlantic Section
P.O. Box 151, Station "M"
Halifax, Nova Scotia
B3J 2M4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
- Estimated employment in 1990: **300**
- Employment growth between 1990 and 1996 is projected to be: **Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **50**

**Unemployment**
- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**
- Estimated average annual earnings in 1991: **$49,000**

# Geologists

### Typical Occupations

geochemist
geophysicist
mineralogist
oceanographer
petroleum geologist

### Nature of the Work

This occupational group is concerned with conducting research into the nature and history of the earth's crust; the search for mineral and energy resources; and the distribution, circulation and properties of water. Activities may include geological mapping; identifying and classifying minerals, rocks, fossils and precious stones; laboratory research; and providing assistance in locating and developing petroleum resources, natural gas and mineral deposits. Geologists usually divide their time between office work, laboratory work and fieldwork.

### Requirements

The minimum educational level to work in this occupation is generally a Bachelor's degree in Geology. Some jobs with exploration companies, research institutes, or universities may require a Master's or Doctoral degree.

### Training Paths

Five universities in Nova Scotia offer Bachelor's degree programs in Geology ranging in length from three to five years. The minimum entrance requirement is completion of the twelfth grade with a strong background in mathematics and science. Master's degree programs are available at Acadia University and Dalhousie University. Dalhousie offers a Doctoral degree in this area. A degree in Oceanography at the Master's and Doctoral level is also available at Dalhousie. An honours Bachelor's degree in a related area is required for entrance.

### Skills and Aptitudes

Individuals in this occupation should have an interest in the earth's structure and materials and enjoy working outdoors, often in remote areas. A willingness to travel may also be necessary, although some geologists work entirely in a laboratory environment. They should be curious, analytical and able to communicate effectively. Those involved in fieldwork must have physical stamina.

### Job Prospects

Geologists are employed in consulting firms, Government departments, education services and the mining industry. Any future growth in this occupation will likely result from renewed interest in oil and gas exploration. Job openings in Government will likely be limited as a result of the commitment to downsize the public service sector.

### For Further Information

Department of Natural Resources
Extension Services Division
P.O. Box 698
Halifax, Nova Scotia
B3J 2T9

## NOVA SCOTIA LABOUR MARKET CONDITIONS

### Employment

* Estimated employment in 1990: **260**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

### Unemployment

* The unemployment rate during the third quarter of 1990 was: **Below Average**

### Earnings Potential

* Estimated average annual earnings in 1991: **$47,000**

# *Industrial engineers*

**Typical Occupations**
cost engineer
efficiency engineer
industrial methods planner
production engineer
safety engineer

**Nature of the Work**

Industrial engineers are involved in the design and implementation of systems and procedures required for the organization and direction of any company or institution. Typical applications of the design function include the planning, scheduling and control of manufacturing, plant layouts, workplace design, project planning, productivity improvement studies, occupational health and safety, quality management, and computer information systems.

Much of the time spent by the industrial engineer is in an office utilizing a computer. However, more so than for other branches of engineering, much time is spent in the workplace interacting with people who are key components of the systems being designed.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The Engineering degree can only be obtained in Nova Scotia through the five-year Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province. The minimum entrance requirement is completion of the twelfth grade with a strong standing in mathematics, physics, and chemistry.

**Skills and Aptitudes**

Individuals entering this occupation should possess an interest in the organization and management of the workplace including plant layout, production, and personnel scheduling; and with the integration of automation into the workplace. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is also necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

Industrial engineers are employed in goods-producing industries. Specifically, the rubber and pulp and paper industries are the principal employers in the Province. The greater use of automation in factories and offices and changing technology may mean that industrial engineers will play a more significant role in the future in helping firms reduce costs and become more productive, efficient and competitive.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Society for Industrial Engineering
Atlantic Provinces Chapter
c/o TUNS
P.O. Box 1000
Halifax, Nova Scotia
B3J 2X4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **480**
- Employment growth between 1990 and 1996 is projected to be: **Above Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$45,000**

# Lawyers

**Typical Occupations**

barrister
corporate counsel
criminal lawyer
crown prosecutor
judge
marine lawyer

**Nature of the Work**

Much of the work of lawyers is done in offices or law libraries. The work consists of drafting documents such as wills, leases and agreements, negotiating contracts with other parties, meetings with clients and related persons to take instructions or to provide advice. Another aspect of legal work is appearing in Court or in front of administrative tribunals such as the Public Utilities Board, the Labour Relations Board or the Nova Scotia Municipal Board. Many lawyers work fairly regular hours but this is usually confined to lawyers who are employed by Government offices or corporations. Lawyers in private practice, for the most part, work longer and fairly irregular hours.

Judges, of course, preside in a courtroom and must be very well versed in all aspects of the law. The nature of their work is to listen to the evidence presented by both sides; to attempt to read and study any briefs submitted to them before, during and after the Court hearing; sometimes to conduct their own independent research in order to be satisfied with the applicable law relating to that subject matter; and then to render a decision which is consistent with previous decisions of Courts in Nova Scotia or the Supreme Court of Canada. Judges work fairly regular business hours for the most part.

**Requirements**

To practise law in Nova Scotia, individuals must have a Bachelor's degree in Law followed by one year of articling (practical experience in a law office). Graduates must then complete a bar admission course and qualification examinations before they may practise. Following ten years of practice at the Bar, lawyers are eligible to apply for most judgeships.

**Training Paths**

Dalhousie University Law School is the only institution offering a Bachelor of Laws degree program in the Province. Completion of at least two years of undergraduate study and an acceptable score on the standardized Law School Admissions Test is required for entrance into this three-year program. Additionally, the Law School offers combined Bachelor of Laws/ Master's in Business or Public Administration programs. These joint programs are four years in length and require the completion of a Bachelor's degree for admission. A wide range of optional courses are available in this program, but the Law School is particularly known for its offerings in marine and environmental law. Degree programs are also available in the Master of Laws and Doctor of Laws.

**Skills and Aptitudes**

Lawyers must be able to think logically and analytically. For courtroom-style work, individuals must be able to think quickly on their feet and be able to express their ideas clearly. Lawyers must have confidence in their own abilities. Office-style work, such as drafting documents, takes a high degree of concentration. All lawyers should have a strong command of the English language. As some lawyers deal with many members of the public during a normal workday, patience, tact and an understanding of human nature is of great assistance.

**Job Prospects**

Some lawyers are employed in Government offices such as the Attorney General's Office and Nova Scotia Legal Aid. Other lawyers are employed by corporations such as manufacturing companies, retailers, banks and trust companies. The majority of lawyers are employed in private practice throughout the Province. Employment is expected to remain steady, but it may be difficult for younger, inexperienced lawyers to obtain jobs depending on economic conditions at the time of graduation.

Population growth and increased business activity usually sustains a fairly strong growth in the demand for lawyers. However, the work of some lawyers is adversely affected by cyclical downswings in the economy. During a recession or downswing, there may be a decline in demand for particular legal services, such as commercial and corporate transactions. Although few lawyers actually lose their jobs during these times, earnings may decline for many. On the other hand, demand increases during poor economic times for legal services related to bankruptcies, foreclosures and divorce.

**For Further Information**

Nova Scotia Barristers' Society
1475 Hollis Street
Halifax, Nova Scotia
B3J 3M4

Canadian Bar Association
Nova Scotia Branch
P.O. Box 876
Dartmouth, Nova Scotia
B2Y 3Z5

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **1,280**
- Employment growth between 1990 and 1996 is projected to be: **Above Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **180**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$65,000**

# Librarians and related occupations

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **580**

- Employment growth between 1990 and 1996 is projected to be: **Below Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$34,000**

**Typical Occupations**

archivist
film librarian
health records librarian
museum curator
reference librarian

**Nature of the Work**

This occupational group is concerned with library, museum, and archival sciences. Librarians are responsible for developing, organizing, maintaining, and promoting collections of library materials. Entry-level librarians in public service departments select books and other library materials, provide information and advisory service to readers, prepare bibliographies and may be involved in library programming and talks to community groups. Library environments vary widely and include public, school, university, Government and business libraries. School librarians may be involved in team-teaching with the classroom teachers in areas such as information literacy. Museum curators plan, organize and maintain collections for museums and art galleries. Archivists appraise, acquire, organize and maintain permanent records and historically valuable documents. Individuals in these occupations may also be involved in planning, organizing, and supervising the work of paraprofessional and clerical staff.

**Requirements**

For professional qualification as a librarian, a Master's degree in Library Science (MLS) is preferred. Many fully qualified school librarians possess a Bachelor of Education degree in conjunction with the MLS. While there are no such requirements for curators, most do have university education in Museum Studies. While not a formal requirement, most archivists have a Bachelor's or Master's degree in History.

**Training Paths**

Dalhousie University is one of seven Canadian universities offering a two-year Master's program in Library and Information Studies. A Bachelor's degree in any field is the prerequisite for admission. A three-year Bachelor of Arts degree in Community Studies with a concentration in Museum Studies is offered at the University College of Cape Breton. This program requires completion of the twelfth grade for admission. A Master's program in Museum Studies is offered at the University of Toronto and requires completion of a Bachelor's degree with Honours in any field for entry. Bachelor's degrees in History are offered at several universities throughout Nova Scotia while Master's programs are available at Dalhousie University, Saint Mary's University, and Acadia University. These are two-year programs which require completion of a Bachelor's degree for admission. For information regarding a Bachelor's degree in Education, refer to the occupational group entitled Teachers, non-university, in this handbook.

**Skills and Aptitudes**

Individuals considering a career in these fields require research skills plus intellectual curiosity and demonstrated ability to work with individuals and groups of all ages as well as other staff. Demonstrated supervisory and organizational skills are essential. A knowledge of literature and current information sources is important. A working knowledge of spoken and/or written French is an asset.

**Job Prospects**

Most of the librarians in the Province are employed in education services. Employment growth will likely be limited as government funding to educational institutions will be lessened.

**For Further Information**

Nova Scotia Library Association
c/o Pictou-Antigonish Regional Library
P.O. Box 276
New Glasgow, Nova Scotia
B2H 5E3

Nova Scotia School Library Association
c/o Sir Robert Borden Jr. High School
16 Evergreen Avenue
Dartmouth, Nova Scotia
B2W 4A7

Canadian Museum Association
280 Metcalfe Street, Ste. 400
Ottawa, Ontario
K2P 1R7

# *Mathematicians, statisticians, and actuaries*

**Nature of the Work**

This occupational group is concerned with researching theories regarding mathematics, probability, statistics, and risk; developing and applying mathematical techniques for solving problems in various other fields; conducting surveys or designing experiments to compile statistical data and drawing valid conclusions; applying data and systems analyses; and applying mathematical, actuarial and statistical methods to calculate premium and benefit payments for financial programs such as insurance and annuities.

**Requirements**

Individuals in the occupations of mathematician and statistician are generally required to have completed a Bachelor's degree in Mathematics or Statistics. For advancement purposes, further study at the Master's or Doctorate level is recommended for careers in mathematics and statistics. Although it is not required to have a university degree to become an actuary, most possess an Bachelor's degree in Mathematics or Business Administration/Commerce. Actuaries must be accredited with the Canadian Institute of Actuaries to use that professional title. To obtain full accreditation as an actuary, individuals must obtain three years of work experience and write a series of examinations administered by the Institute.

**Training Paths**

Most universities throughout the Province offer undergraduate degree programs in Mathematics either through a Bachelor of Science or a Bachelor of Arts. Dalhousie University, Saint Mary's University, Mount Saint Vincent University and St. Francis Xavier University offer programs in Mathematics with a concentration in Statistics. These degree programs vary in length from three to four years. Completion of the twelfth grade is required for entrance. Acadia and Dalhousie also offer programs at the Master's level in Mathematics.

**Skills and Aptitudes**

Individuals entering these occupations should possess strong mathematical and analytical skills, as well as a practical business sense and the ability to develop innovative solutions to new problems. Good oral and written communication skills are also important.

**Job Prospects**

The finance, insurance, and real estate industries are the primary employers for these occupations. A growing concern for a financially secure future, a trend for early retirement, and a demand for prudent management of pension funds are factors that could improve employment opportunities in the future for this occupational group.

**For Further Information**

Canadian Mathematical Society
577 King Edward Street, Ste. 108
Ottawa, Ontario
K1N 6N5

Canadian Institute of Actuaries
Reynolds Thorvardson Ltd.
P.O. Box 773
Waterloo, Ontario
K9V 4W9

Statistical Society of Canada
Carleton University
Dunton Tower, 6th Floor
Ottawa, Ontario
K1S 5B6

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

* Estimated employment in 1990: **180**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$51,000**

# *Mechanical engineers*

**Typical Occupations**

air conditioning engineer
automotive engineer
heating systems design engineer
marine design engineer
tool engineer

**Nature of the Work**

This occupational group is concerned with applied research, development and design of mechanical equipment and its manufacture; supervision of the operation, maintenance or repair of machines that produce, transmit or consume power or energy; and evaluation of installed plant processes related to machines. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The Engineering degree can only be obtained in Nova Scotia through the five-year Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics, and chemistry.

Master's programs in Applied Science with a concentration in either Naval Architecture or Marine Engineering are offered at the Technical University of Nova Scotia. A Bachelor's degree in Engineering with high standing is required for entry. These programs are generally one to two years in length.

**Skills and Aptitudes**

Individuals in this occupation should possess an interest in the design and operation of machines and mechanical processes including transportation, equipment, robotics and manufacturing. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

Mechanical engineers can be found in both service-producing and goods-producing industries. Businesses offering this type of professional service are the largest employers, but employment can also be found in Government and in manufacturing industries. This diversity helps protect these workers from long-term layoffs and allows them some flexibility when searching for employment. Technology and free trade with the United States may increase the demand for mechanical engineers in the future as firms may wish to utilize these services to become more competitive.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Society for Mechanical
Engineering
2050 Mansfield Street, Ste. 700
Montreal, Quebec
H3A 1Z2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **480**

- Employment growth between 1990 and 1996 is projected to be: **Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **20**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$55,000**

# *Metallurgical engineers*

**Typical Occupations**
hydrometallurgist
steel engineer
welding engineer

**Nature of the Work**

This occupational group is concerned with studying properties and characteristics of metals; developing, controlling and advising on processes for the extraction of metals from their ores; developing alloys; and overseeing metal manufacturing processes. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The Engineering degree can only be obtained in Nova Scotia through the five-year Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics, and chemistry.

**Skills and Aptitudes**

Individuals entering this occupation should possess an interest in the chemical and physical processes involved in metal purification and the extraction of metals from the ground. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

A small number of these professionals are employed in the Province. Employment may be found in steel plants (physical metallurgy), mining companies (extractive metallurgy), consulting firms or an educational setting. The limited metal processing activity in the Province restricts the number of jobs available for these trained professionals.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Institute of Mining,
Metallurgy and Petroleum
Xerox Tower
1210 - 3400 de Maisonneuve Blvd. West
Montreal, Quebec
H3Z 3B8

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **20**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$53,000**

# *Meteorologists*

**Typical Occupations**
atmospheric physicist
climatologist
weather forecaster

**Nature of the Work**
This occupation is concerned with conducting pure research into atmospheric phenomena and applied research to develop theories, laws, methodology and techniques for more accurate weather analysis and forecasting; and studying and reporting on climatic conditions. A large proportion of meteorologists work as weather forecasters with Environment Canada, the Department of National Defence and private sector firms. Depending on the size and type of institution, individuals in this occupation may be required to work shiftwork, evenings, weekends and holidays.

**Requirements**
A Bachelor of Science degree and a diploma in Meteorology is generally required for employment in this occupation.

**Training Paths**
Dalhousie University offers a one-year diploma program in Meteorology for students who have completed a three- or four-year Bachelor of Science degree in Physics or another related subject. A Bachelor of Science with a specialization in Meteorology is offered at McGill University in Montreal and at the University of Alberta in Edmonton. These programs require completion of the twelfth grade for entrance. Those who find employment with the Federal Government must successfully complete a six-month training program followed by a two-year apprenticeship program to develop their operational meteorological skills.

**Skills and Aptitudes**
The work of meteorologists is exacting and often demands close concentration for long periods of time. Meteorologists should have good judgement, initiative and perseverance. They must be able to meet deadlines, and be able to communicate effectively, both orally and in writing, in order to supply information to users.

**Job Prospects**
Almost all meteorologists are employed in the Federal Government, but there are a few employed in the Provincial Government, air transportation industry and private firms. Since meteorologists are dependent on the Government for employment, new job openings will be limited in view of reductions in the public service sector.

**For Further Information**
Atmospheric Environment Service
1496 Bedford Highway
Bedford, Nova Scotia
B4A 1E5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **70**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$49,000**

# *Mining engineers*

**Typical Occupations**

exploration engineer
mine analyst
mine safety engineer
mineral engineer

**Nature of the Work**

This occupational group is concerned with conducting studies on mining engineering problems; determining mine locations; planning and designing the development of mines, mine facilities, systems and equipment; advising on methods of extracting coal, minerals and metal-bearing ores from the earth; planning; organizing; and supervising the extraction of minerals and their preparation or processing. Some engineers work in an office most of the time, while others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers of Nova Scotia.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year term of relevant work experience. The Engineering degree is normally obtained in Nova Scotia through a Bachelor of Engineering program at the Technical University of Nova Scotia. The first two years of this program must be completed through the Engineering diploma program at one of several universities in the Province and associated universities outside the Province. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics, and chemistry.

**Skills and Aptitudes**

Individuals entering this occupation should possess an interest in the evaluation, development, and extraction of mineral deposits including mining methods, mineral processing techniques, rock mechanics, and environmental control methods. The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers and their usage is an important asset.

**Job Prospects**

Most mining engineers in the Province are employed with the coal mining industry. Some are employed in non-metal mining and with the Provincial Government. Future demand for this occupation will depend on factors affecting the level of mining activity such as world prices of mining products, more technologically advanced mining systems and further enforcement of mine health and safety regulations.

Increased demand for coal and, consequently, for mining engineers in the coal industry will depend, to a great extent, on the availability and price of other energy sources such as petroleum, natural gas, and nuclear energy as well as the price of coal in other countries.

**For Further Information**

Association of Professional
Engineers of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Mining Society of Nova Scotia
88 Leeside Drive
Coxheath, Nova Scotia
B1R 1S6

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **110**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$45,000**

# Other professional engineers

**Typical Occupations**

agricultural engineer
forest engineer
geological engineer
nuclear engineer

**Nature of the Work**

This occupational group is concerned with occupations involved with the practical application of the laws and principles of architecture and engineering for the design, development, installation, production, utilization and maintenance of machines, materials, instruments, structures, processes and services. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals in these occupations are generally required to have an engineering degree and be registered with the Association of Professional Engineers.

**Training Paths**

There are a number of occupations within this group, some of which include geological, forestry, nuclear and agricultural engineering.

A Bachelor's degree in Agricultural Engineering may be obtained at the Technical University of Nova Scotia. The first two years must be completed through the Engineering diploma program at one of several universities in the Province. Programs in Forestry and Geological Engineering are not available in Nova Scotia; however, the University of New Brunswick in Fredericton offers Bachelor's level degrees in these areas. These programs are either four or five years in length. For each of the programs mentioned above, successful completion of the twelfth grade with high standing in chemistry and physics is required.

**Skills and Aptitudes**

Individuals entering into these occupations should possess a mechanical aptitude and an interest in engineering design and problem solving. The ability to think in an analytical and logical manner and to communicate and work well with others is also necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

Engineers employed in this occupation are primarily engaged in providing consulting services. There are also a small number working in manufacturing (especially in textiles and plastics) and for Government.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Society of Agricultural
Engineering
P.O. Box 306, Sub P.O. #6
Saskatoon, Saskatchewan
S7N 0W0

Canadian Institute of Forestry
P.O. Box 803
Fredericton, New Brunswick
E3B 5G4

Nova Scotia Department of
Natural Resources
Truro Division Office
P.O. Box 698
Halifax, Nova Scotia
B3J 2T9

Nova Scotia Forestry Association
P.O. Box 1113
Truro, Nova Scotia
B2N 5G9

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **130**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$43,000**

# Other social science occupations

**Typical Occupations**
geographer
historian
home economist
market researcher
political scientist

**Nature of the Work**

This occupational group is composed of a wide range of occupations concerned with human society, its social and political institutions, and its environment. Activities may include conducting research into the development and functioning of political institutions; conducting market research; investigating the characteristics of areas of the earth's surface and its inhabitants; interpreting interactions of physical and human environments; researching into past and current events; and studying the origin, development, and structure of languages. Depending on the size and type of institution, individuals in these occupations may be required to work irregular hours, including evenings, weekends, and holidays.

**Requirements**

While these occupations have no formal requirements for entrance, it is strongly recommended that the individual possess either a Master's or a Doctoral degree to fully qualify and specialize in one area.

**Training Paths**

Several universities in the Province offer degrees at both the Bachelor's and Master's level in the areas of Political Science, Home Economics, History, Geography and Business Administration. The Bachelor's degree is three to four years in length and requires the completion of the twelfth grade for admission. The Master's level requires one to two years to complete following a Bachelor's degree. Individuals enrolling in this program may major in one of several social science options. Other programs which are related to this occupational group are available in universities around the Province. Examples of these programs are African Studies, Atlantic Canada Studies, Asian Studies, Celtic Studies, Foreign Policy Studies, Linguistics, Comparative Literature, Medieval Studies, International Relations, and Classics; consult individual university calendars for specific course information.

**Skills and Aptitudes**

Individual skills and aptitudes will vary depending on the area of specialization. An interest in the social sciences at the high school level and enjoyment in reading and writing are necessary. As individuals in these occupations often spend a great deal of time conducting and/or analyzing research, the ability to organize, interpret, and correlate data is important. Good communication skills are also required.

**Job Prospects**

Over half of the individuals in this occupation are employed in providing services such as market research to private businesses. A number of these individuals are also employed in teaching at the high school level or at university. The remainder work for the Provincial Government and in health and social services industries.

**For Further Information**

Canadian Political Science Association
University of Ottawa
205 - 1 Stewart Street
Ottawa, Ontario
K1N 6H7

Canadian Association of Geographers
Atlantic Division
c/o Dept. of Geography
Saint Mary's University
Halifax, Nova Scotia
B3H 3C3

Nova Scotia Home Economics Association
P.O. Box 1548
Stellarton, Nova Scotia
B0K 1S0

### NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **180**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **30**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

# *Petroleum engineers*

**Typical Occupations**
natural gas engineer
oil and gas production engineer

**Nature of the Work**

This occupational group is concerned with studying geological surveys, earth samples and other data to advise on both the means of developing oil and gas fields and the equipment to be used in the extraction, storage and initial treatment prior to transportation. Many petroleum engineers plan and supervise drilling operations. If drilling is successful, petroleum engineers work to achieve the maximum profitable recovery of oil and gas by determining the most efficient production methods. Some engineers work in an office most of the time, but others work in laboratories, industrial plants, or construction sites, where they inspect, supervise, or solve onsite problems.

**Requirements**

Individuals working in this occupation are required to be registered with the Association of Professional Engineers.

**Training Paths**

The educational requirements to obtain registration include the completion of a Bachelor of Engineering degree program and a two-year work term. The only training in Canada for petroleum engineers is offered at the University of Alberta in Edmonton. This degree program is four years in length. The minimum entrance requirement is completion of the twelfth grade with strong standing in mathematics, physics and chemistry.

**Skills and Aptitudes**

The ability to think in an analytical and logical manner and to communicate and collaborate well with others is necessary as engineers are often involved in teamwork. Knowledge of computers is an asset.

**Job Prospects**

Petroleum engineers are employed in services related to mining and professional businesses. With the development of the oil fields off the coast of Nova Scotia and Newfoundland, employment opportunities may increase. However, individuals should be cautioned that foreign competitors will also be competing for these jobs.

**For Further Information**

Association of Professional Engineers
of Nova Scotia
1355 Barrington Street, Ste. 920
P.O. Box 129
Halifax, Nova Scotia
B3J 2M4

Canadian Association of Drilling Engineers
800 - 540 5th Avenue S.W.
Calgary, Alberta
T2P 0M2

**NOVA SCOTIA LABOUR MARKET CONDITIONS**

**Employment**

- Estimated employment in 1990: **90**

- Employment growth between 1990 and 1996 is projected to be: **Above Average**

- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$50,000**

# Physicists

**Typical Occupations**

- astronomer
- astrophysicist
- electronics scientist
- health physicist
- nuclear physicist

**Nature of the Work**

This occupational group is concerned with conducting fundamental research aimed at gaining new knowledge about physical phenomena and applied research aimed at commercial utilization of these phenomena. These include light, heat, and other electromagnetic radiation, acoustics, electricity, magnetism and properties of matter. Individuals may be involved directly in research or in supervising other scientists and engineers. Research activities may include designing apparatus; conducting experiments; analyzing results; generating data for formulating or substantiating new theories, concepts or laws; and devising methods of applying new knowledge to solve problems in science, engineering, medicine and industry.

**Requirements**

Most positions require a Master's or Doctoral degree in a specialized field of physics.

**Training Paths**

A Bachelor of Science degree in Physics is at least four years in length and offered at most universities in Nova Scotia. The basic entrance requirement is completion of the twelfth grade with good standing in mathematics and physics. Senior research or teaching positions in physics require a Master's or Doctoral degree. A Master's degree in Science with a specialization in Astronomy and a Bachelor of Science degree in Physics with an Astrophysics option are available at Saint Mary's University. Saint Francis Xavier University and Dalhousie University offer two-year Master's degrees in Physics requiring completion of a Bachelor's degree for entrance. Dalhousie University also offers a Doctoral degree in Physics.

**Skills and Aptitudes**

Physicists should have perseverance, imagination and initiative, along with a keen mind and a sense of curiosity. Mathematical and analytical ability and a keen interest in conducting research into areas of physics are important.

**Job Prospects**

Most physicists (excluding teachers and professors) are employed in the field of education or in Government. Small numbers are also employed as consultants or work in hospitals.

**For Further Information**

Canadian Association of Physicists
University of Windsor
401 Sunset Street
Windsor, Ontario
N9B 3P4

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **50**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$53,000**

# Psychologists

### NOVA SCOTIA LABOUR MARKET CONDITIONS

Employment

| | |
|---|---|
| * Estimated employment in 1990: | **350** |
| * Employment growth between 1990 and 1996 is projected to be: | **Above Average** |
| * Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: | **40** |

Unemployment

| | |
|---|---|
| * The unemployment rate during the third quarter of 1990 was: | **Significantly Below Average** |

**Earnings Potential**

| | |
|---|---|
| * Estimated average annual earnings in 1991: | **$40,000** |

**Typical Occupations**

child psychologist
clinical psychologist
educational psychologist
industrial psychologist
mental health psychologist

**Nature of the Work**

Psychologists provide a range of services requiring different types of training. Experimental psychologists, usually found in university settings, teach psychology and conduct scientific research into human and animal behaviour. Clinical psychologists use their knowledge of human behaviour to provide assessment, treatment, and research for individuals with emotional difficulties, learning disabilities, marital problems, child behaviour problems, brain injury, sexual deviance, fears and phobias, stress-related disorders, pain and many other concerns. In Nova Scotia, psychologists are employed by hospitals, universities, mental health clinics, the RCMP, and school boards. Many psychologists run their own private practices or work as consultants to business and industry.

**Requirements**

Psychologists working in Nova Scotia must have a minimum of a Master's degree in Psychology and must be registered with the Nova Scotia Board of Examiners in Psychology. However, a Doctoral degree is required for many clinical, research, and teaching positions, and for registration in many other provinces.

**Training Paths**

A four-year Bachelor's degree with Honours in Psychology is generally the prerequisite for further training in this area. Most universities in Nova Scotia offer this program, which requires completion of the twelfth grade for entrance. Master's degrees in Clinical and Experimental Psychology are offered at Dalhousie University, Saint Mary's University and Acadia University. These programs are a minimum of two years in length and require an Honour's degree for entrance. Mount Saint Vincent University offers a Master's degree in School Psychology which generally requires a Bachelor's degree with a Psychology major plus a Bachelor of Education degree for entrance. Dalhousie has a two-year Research/ Experimental Doctorate which requires a Master's degree for entrance. The Clinical Psychology Doctoral program is a five-year program requiring an Honour's degree for entrance. Students should check carefully to determine which program(s) will provide them with the training required to work in the areas of their interest and whether the program would make them eligible for registration as a psychologist.

**Skills and Aptitudes**

A psychologist should be mature, tolerant of others, and have a genuine interest in working with people. Strong oral and written communication skills are important, as is strength in mathematics and science.

**Job Prospects**

Psychologists are employed in health services and education services. Social and economic changes coupled with increased recognition for mental illness have created a demand for these professionals. However, government cutbacks to health services and research agencies could limit employment growth in the future.

Several factors may help maintain the demand for psychologists: increased emphasis on mental health maintenance in conjunction with the treatment of physical illness; public concern for the development of human resources, including the growing elderly population; and increased testing and counselling of children.

**For Further Information**

Association of Psychologists of Nova Scotia
P.O. Box 594, Station "M"
Halifax, Nova Scotia
B3H 2R7

# Social workers and counsellors

**Typical Occupations**

education counsellor
family counsellor
marriage counsellor
parole officer
psychiatric social worker

**Nature of the Work**

There are at least two distinct occupations in this group. The occupation of social worker is concerned with individuals or groups with problems, such as poverty, illness, family maladjustment, antisocial behaviour, and inadequate housing. Activities may include conducting research; providing individual and group counselling in the fields of employment, rehabilitation and personal relationships; and organizing and supervising social, recreational and cultural activities in community centres, residential treatment facilities, and similar institutions.

Counsellors can be found in schools, businesses, industry, government, community agencies and consulting. Their responsibilities include helping people to make career decisions at various stages in life and to develop the life skills necessary for adapting to a rapidly changing society. Some activities may include assessment of client's needs, consultative activities with parents and other teachers, evaluation and assessment, group dynamics and research.

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **2,030**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **190**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$33,000**

Depending on the size and type of institution, individuals in these occupations may be required to work irregular hours, including evenings, weekends, and holidays, both in the office and out in the community.

**Requirements**

The generally accepted minimum requirement to work in these occupations is a Bachelor's degree in either Education, Social Work, or Psychology. A Master's degree in Social Work is generally required for positions in the mental health field and is almost always necessary for supervisory, administrative, and research positions. A Doctoral degree in Social Work is usually required for teaching and is desirable for some research and administrative positions.

Ideally, guidance counsellors have completed a Master's degree in Education with a specialization in Counselling; however individuals with less qualifications are sometimes accepted. At a minimum, courses in counselling are required.

**Training Paths**

Bachelor's degrees in Education and Psychology are available at most universities in the Province. These are either three- or four-year programs and require completion of the twelfth grade for admission. A Bachelor of Social Work degree is offered at Dalhousie University. This program is four years in length. The completion of at least one year of another Bachelor's level program is required, although most applicants have previous Bachelor's degrees completed. For those wishing to work as a social work assistant, a Community Services certificate course is available through the Nova Scotia Department of Community Services and is taught at the Institute of Technology Campus of the Nova Scotia Community College. This is a ten-month course and is available to those with completion of the twelfth grade plus two years of related work experience. Dalhousie also offers a Master's degree in Social Work. A four-year Bachelor's degree in Child Study is available at Mount Saint Vincent University requiring completion of the twelfth grade for entry. Individuals admitted to this program may specialize in one of four areas.

Master's degrees in Education are offered at most universities throughout Nova Scotia. Dalhousie also offers a Doctoral degree in this area.

**Skills and Aptitudes**

Understanding, maturity and good listening skills are all necessary for those working in these occupations. These individuals should have an above-average ability to learn, reason, make decisions and express ideas clearly. An interest in the social welfare of others and a desire to assist them are required.

**Job Prospects**

The largest number of social workers are employed in institutional health and social services, and in the Provincial Government. Although an increase in the population and social problems facing it will increase the need for these workers, limited government spending could restrict new job openings and place more of a caseload on existing workers.

Job prospects for social workers vary a great deal. Opportunities differ depending upon academic credentials, experience, and field of practice.

**For Further Information**

Nova Scotia Association of Social Workers
Room #3, Hancock Hall
Dalhousie University
Halifax, Nova Scotia
B3H 3J5

Maritime School of Social Work
Admissions Office
6414 Coburg Road
Halifax, Nova Scotia
B3H 3J5

Canadian Guidance and Counselling
Association
Atlantic Chapter
P.O. Box 634
Bras d'Or, Nova Scotia
B0C 1V0

# Sociologists and anthropologists

**Typical Occupations**
archaeologist
criminologist

**Nature of the Work**
This occupational group is concerned with investigating the origin, development, evolution, lifestyle and social relationships of groups of human beings. Sociologists concentrate on the structure, social patterns and inter-relationships of human societies, while anthropologists are more interested in the origin and functioning of society with emphasis on human evolution, physical characteristics and geographical distribution. Activities may include collecting, organizing, interpreting and presenting scientific data; conducting experiments; and teaching within a community college or university setting.

**Requirements**
Sociologists and anthropologists in any specialty are generally required to hold a Master's or Doctoral degree.

**Training Paths**
Bachelor's degrees in Sociology and Anthropology are available at several universities in Nova Scotia. These are generally three- or four-year programs which require the completion of the twelfth grade. Saint Mary's University and St. Francis Xavier University offer courses in Archaeology. Saint Mary's also offers a certificate program in Criminology. Applicants must be enrolled in a degree program at Saint Mary's or have completed an undergraduate degree. These institutions should be contacted for further information regarding courses in this field. A Master's degree in Sociology can be obtained from Dalhousie University or Acadia University. This is a two-year program which requires the completion of a Bachelor's degree for entry. Doctoral degrees in Sociology are not available in Nova Scotia but are available at the University of New Brunswick in Fredericton. There are no schools in the Atlantic Provinces offering a Master's degree in Criminology; however, these programs are offered in Ottawa and Toronto.

**Skills and Aptitudes**
Sociologists and anthropologists should be curious about people and society, and how they interrelate. A knowledge of statistics and computers is necessary when organizing and interpreting data. Good communication skills are needed to obtain information from people, and to relate study results. Objectivity is important when describing and analyzing surveys.

**Job Prospects**
Academic sociologists and anthropologists are often found in research and teaching. They are found mainly in universities and in museums. Other opportunities may exist in government departments, hospitals and social service agencies. Future employment for these individuals may be affected by cutbacks in government spending.

**For Further Information**
Canadian Sociology and Anthropology Association
c/o Concordia University
1455 de Maisonneuve Blvd. West, N-317
Montreal, Quebec
H3G 1M8

Nova Scotia Criminology and Corrections Association
5522 Russell Street
Halifax, Nova Scotia
B3K 1X2

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**
* Estimated employment in 1990: **10**

* Employment growth between 1990 and 1996 is projected to be: **Below Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**
* The unemployment rate during the third quarter of 1990 was: **Average**

**Earnings Potential**
* Estimated average annual earnings in 1991: **N/A**

# Teachers, non-university

**Typical Occupations**
community college teacher
elementary school teacher
high school teacher
music teacher
special education teacher

**Nature of the Work**

This occupation is concerned with teaching in elementary and secondary schools and in such institutions as community and teacher's colleges; and nursing, technical, vocational and fine arts schools. During school and summer holidays, teachers may choose to teach, do research, upgrade their education, travel, or pursue non-academic interests.

**Requirements**

Certification is compulsory in this occupation. A certificate indicating the level of training attained is issued by the Department of Education to applicants who provide evidence of satisfactory training.

**Training Paths**

Training for non-university teachers is offered through several universities and colleges throughout Nova Scotia. The Nova Scotia Teachers College offers a four-year Bachelor's degree in Education for those who have completed the twelfth grade and a three-year Associate in Education program for graduates of an undergraduate degree program. Individuals may choose an area of specialization, such as Early Elementary, French, Technology, Intermediate Elementary, Junior High and Physical Education. Several institutions in the Province offer graduates of the Associate program a one-year program leading to a Bachelor of Education degree.

Bachelor of Education programs are also offered at several universities in Nova Scotia. These programs are generally four years in length and require completion of the twelfth grade for entrance. At some universities, a one- or two-year Bachelor of Education degree can be earned after completion of another Bachelor's degree. These programs allow graduates to teach elementary and secondary school classes. Specialized study leading to Bachelor of Education degrees in Special Education, Physical Education, Music, Home Economics, School Psychology, Technology, or Early Childhood Education can be taken at various universities in Nova Scotia.

**Skills and Aptitudes**

Teachers should enjoy working with young people. They should be patient, imaginative, objective, and resourceful; and be able to communicate ideas in a clear and concise yet pleasant manner. Elementary school teachers should be organized, creative, and dependable. They should be able to communicate with students on an educational and an emotional level. Secondary school teachers should be knowledgeable about their subject and able to communicate with and motivate students.

A teacher's workday involves more than just school hours. Many are committed to after-school activities in sports, drama and other areas. They must also attend meetings with other teachers to keep informed of new material to be taught or new methods of teaching. In addition to these activities, they must plan their lessons and prepare any resource materials they might need.

**Job Prospects**

Teachers are employed primarily in education services. A small number are employed in social service institutions, such as homes for the mentally disabled and institutions for drug and alcohol abuse. Future employment in Nova Scotia may be limited with the decline in the youth population and the reduction in Government spending. However, specialized areas of teaching, such as French immersion, will likely present more opportunities.

Nova Scotia teachers are unionized. Annual earnings are based on a pay scale outlined in the collective agreement between the employer and the union. This pay scale is based on the teaching license and experience of the teacher.

**For Further Information**

Nova Scotia Teachers Union
3106 Dutch Village Road
P.O. Box 1060
Armdale, Nova Scotia
B3L 4L7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

- Estimated employment in 1990: **15,900**
- Employment growth between 1990 and 1996 is projected to be: **Below Average**
- Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **650**

**Unemployment**

- The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

- Estimated average annual earnings in 1991: **$41,000**

# Teachers, university

**Typical Occupations**
lecturer
professor
tutor
university teacher

**Nature of the Work**
This occupational group is concerned with teaching one or more courses in a specific discipline within a specified framework and conducting research and publishing findings in a particular field of knowledge within universities and degree-granting colleges. University faculty generally have flexible work schedules; they may work staggered hours and teach classes in the evening. During the period between the end of winter term and the beginning of fall term, they may choose to teach, conduct research, travel, or pursue non-academic interests.

**Requirements**
Employment in these occupations usually requires a Doctoral degree, however, a Master's degree may be acceptable in some fields in which doctorates are not widely available. Individuals generally begin their university teaching career as lecturers or assistant professors, depending on their qualifications. Promotion from assistant to associate and then to full professor is based on experience, on assessment of the quality of teaching and research/publications. Tenure is normally awarded after five years in the lecturer/assistant ranks. In many cases promotion to associate, not full professor, is considered simultaneously with an application for tenure. The tenure and promotion process involves committees of faculty within the institution. After an appropriate number of years (usually ten), individuals may be considered for full professorship. The individual's salary increases with each level achieved.

**Training Paths**
A Bachelor's level degree (generally three or four years in duration) is required for entry into a Master's level program. Those with a Master's or a Bachelor's degree with Honours may make application to the Doctoral program. The Master's program is typically two years in length. The Doctoral program is generally longer, including two years of coursework followed by two or three years of research and thesis writing. Education at the Doctoral level is available at Dalhousie University and the Technical University of Nova Scotia.

**Skills and Aptitudes**
Individuals in these occupations should have good oral and written communication skills. Universities expect faculty to publish articles regularly and sometimes to write books; thus good writing skills are required. Most university teachers carry out research on which to base their articles, so the ability to conduct and analyze research is important. University faculty should be intellectual and possess inquiring and analytical minds, as well as a strong desire to pursue and disseminate knowledge.

**Job Prospects**
Employment for university faculty will depend on the level of funding allocated to universities by Government and other sources. Cutbacks in Government spending are placing more of the financial burden on students. Most job openings will occur due to the replacement of existing university faculty resulting from retirements and deaths. Available jobs are often term positions, with a limited number of tenure appointments occurring. However, some fields such as business may offer more permanent job opportunities.

Earnings can vary significantly depending upon classification, qualifications, and the university in which the individual is employed.

**For Further Information**
Nova Scotia Confederation of University
Faculty Associations
1541 Barrington Street, Ste. 204
Halifax, Nova Scotia
B3J 1Z5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **2,480**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **160**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$49,000**

# Translators and Interpreters

**Typical Occupations**

court interpreter
legal translator
linguist
sign language interpreter
terminologist

**Nature of the Work**

Translators are concerned with the transfer of a written message from one language to another, while interpreters are concerned with the transfer of a spoken message in a consecutive or simultaneous manner.

**Requirements**

Translators and interpreters are required to hold a Bachelor's degree in Translation or Linguistics, or the equivalent in training and experience.

**Training Paths**

In Canada, most programs concentrate on translation from English into French. Many universities in Nova Scotia offer degree programs in French, German and Spanish. Dalhousie University also offers instruction in the Russian language. Université Sainte-Anne is Nova Scotia's only French language university. This university offers French immersion programs during the summer months in addition to the many programs offered during the regular academic year. Four- and five-year programs are offered for written translation at the Université de Moncton in New Brunswick, as well as several universities throughout Quebec and Ontario. Specialized programs in interpreting are available at Laurentian University in Sudbury and Ottawa University. These programs are two years in length.

**Skills and Aptitudes**

Translators must have a thorough knowledge of at least two languages and excellent writing skills. A translator should only translate into his/her native language. Interpreters must possess excellent oral expression, a great ability to concentrate, and a good memory. They must be able to think quickly and clearly.

**Job Prospects**

Translators and interpreters are employed in educational services, businesses offering translation services, and the Federal Government. The ongoing constitutional talks in both the French and English languages could increase the demand for translation services. Efforts to increase trade and obtain business contracts in other countries may bring more foreign-speaking business people into Canada and this may also increase the demand for these services.

**For Further Information**

Corporation of Translators, Terminologists
and Interpreters of New Brunswick
C.P. 427
Fredericton, New Brunswick
E3B 4Z9

Canadian Translators and Interpreters
Council
1 Nicholas Street, #1402
Ottawa, Ontario
K1N 7B7

## NOVA SCOTIA LABOUR MARKET CONDITIONS

**Employment**

* Estimated employment in 1990: **50**

* Employment growth between 1990 and 1996 is projected to be: **Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **N/A**

**Unemployment**

* The unemployment rate during the third quarter of 1990 was: **Below Average**

**Earnings Potential**

* Estimated average annual earnings in 1991: **$25,000**

# Veterinarians

### Nature of the Work

This occupational group is concerned with diagnosing, treating, controlling and preventing animal disorders and disease. Activities may include advising clients on feeding, breeding and caring of animals; operating hospitals; and raising animals to be used in research. Typically, veterinarians diagnose medical problems in their animal patients, perform surgery, and prescribe and administer medicines and drugs. Although many veterinarians work regular hours, those in private practice often work long hours, including evenings, weekends and holidays.

### Requirements

To become licensed to practice veterinary medicine in Nova Scotia, individuals must complete a four-year Bachelor's degree in Veterinary Medicine at a recognized veterinary college, write the National Examining Board examination, and be accepted as a member of the Nova Scotia Veterinary Medical Association.

### Training Paths

The Atlantic Veterinary College on Prince Edward Island offers a four-year program in this area. To be accepted into Veterinary Medicine, one must complete at least two years of university at the Bachelor's level and have a solid academic background, preferably in science. Many universities offer programs in Pre-Veterinary Studies. However, because competition is stiff, completion of a Bachelor's degree is preferred. A personal essay on the applicant's aspirations for veterinary medicine is also required with the application, as is considerable farm and clinical experience.

### Skills and Aptitudes

Veterinarians should have an interest in science, especially biology, and they should love and understand animals. Individuals in this occupation should also possess integrity, reliability, maturity, and determination as well as good oral and written communication skills.

### Job Prospects

Veterinarians are mainly employed in private practice, although some work in animal hospitals and clinics. In urban areas, veterinarians mainly treat house pets, while in agricultural and rural areas, farm animals are the main focus. A smaller number are involved in food safety inspection or the study and control of diseases with the Federal Department of Agriculture. Other jobs may be available at academic institutions and large research laboratories, and with feed producers.

Annual earnings vary depending on the location of employment but are often low relative to the level of education and qualifications required to become a veterinarian. Employment tends to be relatively stable for these individuals throughout the year.

### For Further Information

Nova Scotia Veterinary Medical Association
Agricultural Centre
Kentville, Nova Scotia
B4N 1J5

## NOVA SCOTIA LABOUR MARKET CONDITIONS

### Employment

* Estimated employment in 1990: **140**

* Employment growth between 1990 and 1996 is projected to be: **Above Average**

* Average number of job openings per year (including attrition) between 1990 and 1996 is estimated at: **10**

### Unemployment

* The unemployment rate during the third quarter of 1990 was: **Significantly Below Average**

### Earnings Potential

* Estimated average annual earnings in 1991: **$69,000**

# Canadian Forces Occupations

# Canadian Forces occupations

**Nature of the Work**

The role of the Canadian Forces is to provide the maritime, air, land and support forces to meet Canada's defence commitments. By fulfilling this role the CF contributes to:

1. Sovereignty Protection — monitoring Canadian waters and airspace, as well as conducting military training in the far north.
2. International Co-operation — aiding in deterrence and collective security by participating in a wide range of cooperative activities with NATO, NORAD and other allied nations.
3. Peacekeeping — participating in United Nations peacekeeping missions around the world.
4. Search and Rescue — responding to between eight and nine thousand incidents each year on land and at sea.
5. Assistance to other Departments, Civil Authorities and Civilian Organizations — involvement ranging from searching for missing persons to providing disaster relief.

Qualified personnel may choose from 65 Non-Commissioned Member (NCM) occupations or 32 officer occupations. Most of the occupations represented in this publication have equivalents in the CF. In addition, the CF offers several more which have no civilian counterpart. An individual could be offered a position in a technical, operator or support occupation in either the air, land or maritime element.

**Requirements**

To be enrolled in the CF, candidates must be at least 17 years of age and have Canadian citizenship. They must also meet the minimum requirement on CF aptitude tests, as well as minimum CF medical enrolment standards, which include being within an acceptable weight range for given heights.

Non-commissioned members must have successfully completed the tenth grade, while officers must have successfully completed the twelfth grade with credits in English 441, Math 441 or 442, and one of either Physics or Chemistry 441, as well as all other credits required for high school graduation.

In addition to these basic requirements, there may be additional requirements specific to an occupation or entry plan.

**Training Paths**

Individuals joining the CF must complete basic training. NCMs do their initial training at Canadian Forces Recruit School in Cornwallis, Nova Scotia. Officer cadets do their initial training at either the Canadian Forces Officer Candidate School in Chilliwack, British Columbia, or at the Canadian Forces Leadership Academy in Borden, Ontario. All basic training is tough; it is designed to orient candidates to the military, to acquire basic military skills and discipline, and to get candidates in top physical condition. Depending on the occupation into which candidates are enrolled, further training will be conducted at one or more of the dozens of military units throughout Canada which serve as teaching establishments. The length of time spent in training before being qualified in the basics of a specific occupation may vary from a couple of months to a couple of years, again depending on the occupation.

The CF offers fully subsidized education to certain outstanding applicants. Some of these plans are as follows:

1. Regular Officer Training Plan (ROTP) — up to four years subsidized education at a Canadian military college or a civilian university leading to a Bachelor's degree and a commission as an officer in the CF.
2. Medical Officer Training Plan (MOTP) — subsidization for the last three years of medical school and a one or two year internship, followed by employment as a doctor in the CF.
3. Dental Officer Training Plan (DOTP) — subsidization for four years of dental school followed by employment in the CF as a dental officer.
4. Marine Engineering Technical Training Plan (METTP) — subsidization for three years leading to a technologist diploma and employment as a marine engineering technician in the navy.
5. Naval Combat Systems Technician Training Plan (NCSTTP) — subsidization for two years at the Newfoundland and Labrador Marine Institute of Technology, leading to an Electronic Technician diploma and employment as a Naval Electronics Technician or a Naval Weapons Technician.

The CF recognize advanced academic training through the Skilled Trades Entry Program (STEP) which offers men and women with an electronic background the opportunity to join the CF if they are qualified technicians/technologists from a recognized technical institute or community college. Also, completion of Vehicle Technician training and possession of either the Class A Interprovincial License or Class A Provincial License offers advanced standing in the individual's career choice.

**Primary Reserve (PRes)**

Individuals in the PRes do not serve full-time, but rather train on designated nights and weekends. Each summer, PRes members will train for several weeks at a time, often with their regular force counterparts. Individuals may belong to the PRes while attending school or employed full-time. Under current (1991) restructuring plans in the CF, the Reserve Forces are expected to increase substantially.

**Skills and Aptitudes**

CF members must be able to work in demanding circumstances, sometimes for long periods of time. They must readily accept direction while having the potential to become supervisors and leaders. The CF is a team and its members must all work together to accomplish a task. Candidates must readily accept a challenge, be it physical or mental. Additional skills and aptitudes required for specific occupations may be discussed with CF recruiting personnel.

### Employment

Nationally, the CF comprises approximately 85,000 regular force members and 25,000 primary reserve members. Annual intake for the next two years is estimated between 800 and 1400 NCMs each year for the Regular Force while the Reserve Force is expected to undergo substantial growth for at least the next few years.

### Earnings Potential

The annual salary will be dictated by the candidate's rank. The salary will increase with rank and with each year an individual remains in the CF.

NCM: Estimated annual earnings for a new Private in 1990: **$18,936**

Estimated annual earnings for a Corporal in 1990 (attainable in four years): **$31,812**

Officer: Estimated annual earnings for an Officer Cadet in 1990 while in university:

**$10,659 plus expenses**

after graduation

**roughly $28,068 for the first year**

Estimated annual earnings for a Captain in 1990 (attainable in four years): **$42,432**

### For Further Information

Readers are advised that the foregoing information is very general. For specific information and career counselling about occupations in the Canadian Forces contact:

Canadian Forces Recruiting Centre
Halifax
5251 Duke Street, Suite 502
Scotia Square
Halifax, Nova Scotia
B3J 1N9

# *Appendices*

# Appendix A: Occupations by Standard Occupational Classification Number

**Appendix A**

This is an appendix outlining the occupations included in *Career Options* according to major groupings. The four-digit numbers refer to the *Standard Occupational Classification* (SOC) published by Statistics Canada. Each number classifies the occupation by the type of work, required training, physical demands and working conditions. SOC numbers are primarily used by provincial and federal employment service offices to classify occupations (occs). The abbreviation n.e.c. means "not elsewhere classified." SOC numbers have been included in the handbook for reference purposes.

**Accommodation supervisors** .......... 49
6130 Supervisors, occs in lodging and other accommodation

**Accountants and other financial officers and managers** .......... 137
1135 Financial management occs
1171 Accountants, auditors and other financial officers

**Aerospace engineers** .......... 169
2155 Aerospace engineers

**Agrologists** .......... 170
2131 Agriculturists and related scientists

**Air pilots** .......... 115
9111 Air pilots, flight officers and flight engineers

**Air transport support occupations** .......... 116
9110 Supervisors, air transport operating occs
9113 Air transport operating support occs

**Aircraft fabricating and assembling occupations** .......... 50
8515 Aircraft fabricating and assembling occs, n.e.c.

**Aircraft maintenance engineers** .......... 51
8582 Aircraft mechanics and repairers

**Architects** .......... 171
2141 Architects

**Architectural and engineering technicians and technologists** .......... 117
2160 Supervisors, other occs in architecture and engineering
2164 Architectural technologists and technicians
2165 Engineering technologists and technicians

**Biologists and related scientists** .......... 172
2133 Biologists and related scientists

**Blasting occupations** .......... 29
7715 Blasting occs

**Boilermakers, platers, and structural metal fabricators** .......... 52
8337 Boilermakers, platers and structural-metal workers

**Bricklayers and stonemasons** .......... 53
8782 Brick and stone masons and tile setters

**Canadian Forces occupations** .......... 201

**Carpenters** .......... 54
8541 Cabinet and wood furniture makers
8781 Carpenters and related occs

**Chemical engineers** .......... 173
2142 Chemical engineers

**Chemical supervisors and inspectors** .......... 55
8160 Foremen/women: chemicals, petroleum, rubber, plastics, related materials processing occs
8176 Inspecting, testing, sampling occs: chemicals, petroleum, rubber, plastics, related materials processing

# Appendix A

**Chemists** .......... 174
2111 Chemists

**Child care occupations** .......... 5
6147 Child care occs

**Civil engineers** .......... 175
2143 Civil engineers

**Clerical occupations, general** .......... 95
4131 Bookkeepers and accounting clerks
4135 Insurance, bank and other finance clerks
4137 Statistical clerks
4139 Bookkeeping, account-recording and related occs, n.e.c.
4141 Office machine operators
4143 Electronic data-processing equipment operators
4151 Production clerks
4153 Shipping and receiving clerks
4155 Stock clerks and related occs
4161 Library and file clerks
4169 Library, file, correspondence clerks and related occs, n.e.c.
4171 Receptionists and information clerks
4173 Mail and postal clerks
4175 Telephone operators
4179 Reception, information, mail and message distribution occs, n.e.c.
4192 Adjusters, claim
4195 Personnel clerks
4197 General office clerks
4199 Other clerical and related occs, n.e.c.
9553 Telegraph operators

**Clerical occupations, typing specialty** .......... 96
4111 Secretaries and stenographers
4113 Typists and clerk-typists

**Clerical supervisors** .......... 97
4110 Supervisors, stenographic and typing occs
4130 Supervisors, bookkeeping, account-recording and related occs
4140 Supervisors, office machine, electronic data-processing equipment operators
4150 Supervisors, material recording, scheduling and distributing occs
4160 Supervisors, library, file, correspondence clerks and related occs
4170 Supervisors, reception, information, mail and message distribution occs
4190 Supervisors, other clerical and related occs, n.e.c.

**Community planners** .......... 176
2157 Community planners

**Computer programmers and systems analysts** .......... 118
2183 Systems analysts, computer programmers and related occs

**Construction electricians** .......... 56
8733 Construction electricians and repair workers

**Construction managers** .......... 138
1145 Management occs, construction operations

# *Appendix A*

**Construction supervisors and inspectors** .................... 57
8780 Foremen/women, other construction trades occs
8796 Inspecting and testing occs, construction, except electrical

**Cooks** .................... 58
6121 Chefs and cooks

**Deck crew** .................... 19
9155 Deck crew, ship

**Deck officers** .................... 20
9151 Deck officers

**Dental-related occupations** .................... 151
3157 Denturists, dental hygienists, dental assistants and dental technicians
3158 Dental hygienists and dental assistants
3161 Dental laboratory technicians

**Dentists** .................... 152
3113 Dentists

**Dietitians and nutritionists** .................... 153
3152 Dietitians and nutritionists

**Dispensing opticians** .................... 154
3154 Dispensing opticians

**Drafters** .................... 119
2163 Drafting occs

**Driving, trucking, and related occupations** .................... 15
9170 Supervisors, motor transport operating occs
9171 Bus drivers
9173 Taxi drivers and chauffeurs
9175 Truck drivers
9179 Motor transport operating occs, n.e.c.
9190 Supervisors, other transport and related equipment operating occs
9191 Subway and street railway operating occs

**Economists** .................... 177
2311 Economists

**Education administrators** .................... 139
1133 Administrators in teaching and related fields

**Electrical engineers** .................... 178
2144 Electrical engineers

**Electrical power line workers** .................... 59
8731 Electrical power line workers and related occs
8735 Wire communications and related equipment installing and repairing occs
8739 Electrical power, light and wire communications equipment, erection, installation, repair, n.e.c.

**Electrical power supervisors and inspectors** .................... 60
8730 Foremen/women: electrical power, lighting and wire communications equipment
8736 Inspecting, testing occs: electrical power, light, communications, install, repair

**Electronic communications equipment operators** ........................................ **120**
9550 Supervisors, electronic, communications equipment operating occs, n.e.c.
9551 Radio and television broadcasting equipment operators
9555 Sound and video recording and reproduction equipment operators
9559 Electronic and related communications equipment operating occs, n.e.c.

**Electronic equipment installers and repairers** ............................................ **61**
8535 Electronic and related equipment installing and repairing occs, n.e.c.
8537 Radio and television service repairers
8585 Business and commercial machine mechanics and repairers

**Elemental, machine-related occupations, indoor** ........................................ **41**
4157 Weighers
6162 Laundering occs
6193 Elevator-operating occs
8111 Crushing and grinding occs, mineral ores
8137 Moulding, coremaking and metal casting
8141 Metal extruding and drawing occs
8143 Plating, metal spraying and related occs
8149 Metal processing and related occs, n.e.c.
8153 Separating, crushing, grinding and mixing occs: clay, glass and stone
8159 Clay, glass and stone processing, forming and related occs, n.e.c.
8163 Filtering, straining and separating occs, chemicals and related materials
8171 Crushing and grinding occs, chemicals and related materials
8173 Coating and calendering occs, chemical and related materials
8211 Flour and grain milling occs
8215 Slaughtering and meat cutting, canning, curing and packing occs
8221 Fruit and vegetable canning, preserving and packing occs
8223 Milk processing and related occs
8225 Sugar processing and related occs
8229 Food, beverage and related processing occs, n.e.c.
8231 Sawmill sawyers and related occs
8233 Plywood making and related occs
8235 Wood treating occs
8239 Wood processing occs, except paper pulp, n.e.c.
8259 Pulp and papermaking and related occs, n.e.c.
8261 Textile fibre preparing occs
8263 Textile spinning and twisting occs
8265 Textile winding and reeling occs
8267 Textile weaving occs
8271 Knitting occs
8275 Textile finishing and calendering occs
8279 Textile processing occs, n.e.c.
8293 Tobacco processing occs
8295 Hide and pelt processing occs
8334 Metalworking-machine operators, n.e.c.
8339 Metal shaping and forming occs, except machining, n.e.c.
8353 Wood sawing and related occs except sawmill
8355 Planing, turning, shaping and related wood machining occs
8357 Wood sanding occs
8359 Wood machining occs, n.e.c.
8393 Filing, grinding, buffing, cleaning and polishing occs, n.e.c.
8513 Motor vehicle fabricating and assembling occs, n.e.c.
8531 Electrical equipment fabricating and assembling occs

# Appendix A

8534 Electronic equipment fabricating and assembling occs
8551 Patternmaking, marking and cutting occs: textile, fur, leather products
8557 Milliners, hat and cap makers
8561 Shoemaking and repairing occs
8563 Sewing machine operators, textile and similar materials
8569 Fabricating, assembling, repairing occs: textile, fur and leather products, n.e.c.
8573 Moulding occs, rubber, plastic and related products
8575 Cutting and finishing occs, rubber, plastic and related products
8579 Fabricating, assembling and repairing occs, rubber, plastic and related occs, n.e.c.
8593 Paper product fabricating and assembling occs
9317 Packaging occs, n.e.c.

**Elemental, machine-related occupations, outdoor** .................................... 42
7713 Other rock and soil drilling occs
7717 Mining and quarrying: cutting, handling and loading occs
8711 Excavating, grading and related occs
8713 Paving, surfacing and related occs
8715 Railway section and track workers
8719 Excavating, grading, paving and related occs, n.e.c.
9193 Rail vehicle operators, except railway transport
9199 Other transport and related equipment operating occs, n.e.c.
9311 Hoisting occs, n.e.c.
9315 Material-handling equipment operators, n.e.c.

**Engine crew, ship** .................................................................................. 21
9157 Engine and boiler room crew, ship

**Engine officers, ship** ................................................................................ 22
9153 Engineer officers, ship

**Farmers** ................................................................................................ 35
7111 Farmers
7197 Farm machinery operators and custom operators

**Farming supervisors and inspectors** ........................................................ 36
7180 Foremen/women: other farming, horticultural and animal-husbandry occs
7196 Inspecting, testing, grading, sampling occs: other farming, horticulture

**Firefighters** .......................................................................................... 121
6111 Fire-fighting occs

**Fishers** ................................................................................................. 23
7313 Net, trap and line fishing occs

**Food and beverage processing supervisors and inspectors** ........................ 62
8210 Foremen/women: food, beverage and related processing occs
8226 Inspecting, testing, grading, sampling occs: food, beverage, related processing

**Food service technicians and supervisors** ................................................ 63
6120 Supervisors, food and beverage preparation and related service occs

**Foresters** .............................................................................................. 37
2139 Occs in life sciences, n.e.c.

**Forestry supervisors and inspectors** ........................................................ 38
7510 Foremen/women, forestry and logging occs
7516 Log inspecting, grading, scaling and related occs

# Appendix A

**Funeral directors and embalmers** ........................................ 122

6141 Funeral directors, embalmers and related occs

**General labouring occupations, high strength** ........................................ 43

5193 Route driver
6169 Apparel and furnishings service occupations, n.e.c.
7183 Livestock farm workers
7185 Crop farm workers
7199 Other farming horticultural and animal-husbandry occs, n.e.c.
7513 Timber cutting and related occs
7517 Log hoisting, sorting, moving and related occs
7518 Occs in labouring and other elemental work, forestry and logging
7519 Forestry and logging occs, n.e.c.
7718 Occs in labour, elemental work, mining, quarrying, in oil, gas fields
8118 Occs in labouring and other elemental work, mineral ore treating
8148 Occs in labouring and other elemental work, metal processing
8158 Occs in labouring, elemental work: clay, glass, stone processing and forming
8178 Occs in labouring, other elemental work: chemicals, petroleum, rubber, plastics, related material processing
8238 Occs in labouring, other elemental work: wood processing except paper pulp
8258 Occs in labouring and other elemental work, pulp and papermaking
8298 Occs in labouring and elemental work, other processing
8528 Occs in labouring, elemental work, fabricating and assembling metal products, n.e.c.
8539 Fabricating, assembling, install, repairing occs: electrical, electronic equipment, n.e.c.
8548 Occs in labouring, elemental work: fabricating, assembling, repairing, wood products
8562 Upholsterers
8578 Labour, elemental work: fabricating, assembling, repair, rubber, plastic products
8598 Labouring, elemental work: product fabricating, assembling, repairing, n.e.c.
8718 Labouring and other elemental work: excavating, grading and paving
8738 Labouring, elemental work: electrical power, light, communications, installing, repair
8783 Concrete finishing and related occs
8787 Roofing, waterproofing, and related occs
8798 Occs in labouring and other elemental work, other construction trades
9313 Longshore workers, stevedores and freight handlers
9318 Occs in labouring and other elemental work material handling, n.e.c.
9518 Labouring and other elemental work, printing and related activities

**General labouring occupations, low strength** ........................................ 44

4159 Material recording, scheduling and distributing occs, n.e.c.
4177 Messengers
5141 Street vendors and door-to-door sales occs
5143 Newspaper carriers and vendors
5145 Service station attendants
6129 Food and beverage preparation and related service occs, n.e.c.
6133 Lodging cleaners, except private household
6135 Sleeping-car and baggage porters
6139 Occs in lodging and other accommodation, n.e.c.
6165 Pressing occs
6191 Janitors, charworkers and cleaners
6198 Occs in labouring and other elemental work, services

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7195 Nursery and related workers
8213 Baking, confectionery making and related occs
8217 Fish canning, curing and packing occs
8228 Occs in labouring and other elemental work: food, beverage, related processing
8278 Occs in labouring and other elemental work, textile processing
8529 Other fabricating and assembling occs, metal products, n.e.c.
8538 Occs in labour, elemental work: fabricating, assembling, installation, repair, electrical, electronic equipment
8549 Fabricating, assembling and repairing occs, wood products, n.e.c.
8555 Furriers
8568 Labouring, elemental work: fabricating, assembling, textile, fur, leather products
8571 Bonding and cementing occs, rubber, plastic and related products
8595 Painting and decorating occs, except construction
8599 Other product fabricating, assembling and repairing occs, n.e.c.
9139 Railway transport operating occs, n.e.c.
9319 Other materials handling and related occs, n.e.c.

**Geologists** .......... 179
2112 Geologists and related occs

**Glaziers** .......... 64
8795 Glaziers

**Guides, hosts/hostesses, and flight attendants** .......... 6
6144 Guides
6145 Travel and related attendants, except food and beverage

**Hairdressers and related occupations** .......... 7
6143 Barbers, hairdressers and related occs

**Health care attendants** .......... 155
3132 Orderlies
3135 Nursing attendants

**Hotel clerks** .......... 8
4194 Hotel clerks

**Hotel, motel, and services managers** .......... 140
1142 Services management occs

**Industrial electricians and refrigeration and air conditioning mechanics** . 65
8533 Electrical and related equipment, installing and repairing occs, n.e.c.

**Industrial engineers** .......... 180
2145 Industrial engineers

**Industrial, farm, and construction machinery mechanics** .......... 66
8584 Industrial, farm and construction machinery mechanics and repairers

**Inspectors, Government and non-Government** .......... 67
1116 Inspectors and regulatory officers, government
1176 Inspectors and regulatory officers, non-government

**Lawyers** .......... 181
2341 Judges and magistrates
2343 Lawyers and notaries

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**Librarians and related occupations** .............................................................. 182
2350 Supervisors: occs in library, museum and archival sciences
2351 Librarians and archivists
2359 Occs in library, museum and archival sciences, n.e.c.

**Library and museum technicians** .............................................................. 123
2353 Technicians in library, museum and archival sciences

**Life sciences technicians and technologists** .............................................. 124
2135 Life sciences technologists and technicians
7511 Forestry conservation occs

**Machinists** .............................................................................................. 68
8313 Machinist and machine-tool setting-up occs

**Marine craft fabricators** ............................................................................ 69
8592 Marine craft fabricating, assembling and repairing occs

**Mathematicians, statisticians, and actuaries** ................................................ 183
2181 Mathematicians, statisticians, and actuaries
2189 Occs in mathematics, statistics, systems analysis and related fields, n.e.c.

**Mechanical and repair supervisors and inspectors** ........................................ 70
8580 Foremen/women: mechanics and repairers, except electrical
8586 Inspecting and testing occs, equipment repair, n.e.c.

**Mechanical engineers** .............................................................................. 184
2147 Mechanical engineers

**Medical and health administrators** ........................................................... 141
1134 Administrators in medicine and health

**Medical and health technicians** ................................................................. 156
3162 Respiratory technicians
3169 Other occs in medicine and health, n.e.c.

**Medical laboratory technicians and technologists** ........................................ 157
3156 Medical laboratory technologists and technicians

**Metal machining, fabricating, and assembling supervisors and inspectors** 71
8310 Foremen/women, metal machining occs
8316 Inspecting and testing occs, metal machining
8396 Inspecting and testing occs, machining, n.e.c.
8510 Foremen/women, fabricating and assembling occs, metal products, n.e.c.
8526 Inspecting, testing occs, fabricating and assembling metal products, n.e.c.

**Metal processing supervisors and inspectors** ................................................ 72
8130 Foremen/women, metal processing and related occs
8146 Inspecting, testing, grading and sampling occs, metal processing

**Metallurgical engineers** ............................................................................ 185
2151 Metallurgical engineers

**Meteorologists** ......................................................................................... 186
2114 Meteorologists

**Mineral testing and sampling supervisors and inspectors** ............................ 30
8110 Foremen/women, mineral ore treating occs
8116 Inspecting, testing, grading and sampling occs, mineral ore treating

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**Mining engineers** ........ 187
2153 Mining engineers

**Mining supervisors** ........ 31
7710 Foremen/women, mining and quarrying including oil and gas field occs

**Motion picture projectionists** ........ 125
9557 Motion-picture projectionists

**Motor vehicle mechanics** ........ 73
8581 Motor-vehicle mechanics and repairers

**Musicians and related occupations** ........ 109
3331 Conductors, composers and arrangers
3332 Musicians
3333 Occs in music, n.e.c.

**Nursing assistants** ........ 158
3134 Registered nursing assistant
3139 Nursing, therapy and related assisting occs, n.e.c.

**Occupations in fishing, hunting, and trapping** ........ 24
7315 Trapping and related occs
7319 Fishing, trapping and related occs, n.e.c.

**Occupations in religion** ........ 126
2511 Ministers of religion
2513 Nuns and brothers
2519 Occs in religion, n.e.c.

**Occupations in welfare and community service** ........ 127
2333 Occs in welfare and community services

**Occupations in writing** ........ 128
3351 Writers and editors
3359 Occs in writing, n.e.c.

**Officers, fishing vessel** ........ 25
7311 Captains and other officers, fishing vessels

**Oil burner installers and repairers** ........ 74
8799 Other construction trades, n.e.c.

**Optometrists** ........ 159
3153 Optometrists

**Organization and management consultants** ........ 142
1173 Organization and methods analysts

**Osteopaths and chiropractors** ........ 160
3117 Osteopaths and chiropractors

**Other health diagnosing and treating occupations** ........ 161
3119 Health diagnosing and treating occs, n.e.c.

**Other managers and administrators** ........ 143
1113 Government administrators
1115 Postal management occs
1119 Officials and administrators unique to government, n.e.c.
1130 General managers and other senior officials

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1131 Management occs: natural sciences, engineering and mathematics
1132 Management occs, social sciences and related fields
1146 Farm management occs
1147 Management occs, transport and communications operations
1149 Other managers and administrators, n.e.c.
1179 Occs related to management and administration, n.e.c.

**Other mechanics and repairers** ........ 75
8589 Other mechanics and repairers, except electrical, n.e.c.

**Other occupations in law** ........ 129
2349 Occs in law and jurisprudence, n.e.c.

**Other professional engineers** ........ 188
2146 Agricultural engineers
2156 Nuclear engineers
2159 Professional engineers, n.e.c.

**Other semi-skilled occupations** ........ 45
3375 Attendants, sport and recreation
4172 Mail carriers
4191 Collectors
6115 Guards and related security occs
8786 Insulating occs, construction
9133 Conductors and brake workers, railway
9591 Photographic processing and finishing occs
9919 Other occs, n.e.c.

**Other service occupations** ........ 9
4193 Travel clerks, ticket, station and freight agents
6142 Housekeepers, servants and related occs
6149 Personal service occs, n.e.c.
6199 Other service occs, n.e.c.

**Other social science occupations** ........ 189
2319 Occs in social sciences, n.e.c.

**Other water transportation occupations** ........ 26
9159 Water transport operating occs, n.e.c.

**Painters** ........ 76
8785 Painters, paperhangers and related occs

**Painters, sculptors and illustrating artists** ........ 110
3311 Painters, sculptors and related artists
3314 Advertising and illustrating artists

**Performing and audiovisual arts occupations** ........ 111
3330 Producers and directors, performing and audiovisual arts
3334 Dancers and choreographers
3335 Acting occs
3337 Radio and television announcers
3339 Occs in performing and audiovisual arts, n.e.c.

**Personnel managers** ........ 144
1136 Personnel and industrial relations management occs
1174 Personnel and related officers

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**Petroleum engineers** .......... 190
2154 Petroleum engineers

**Pharmacists** .......... 162
3151 Pharmacists

**Photographic and related occupations** .......... 130
3315 Photographers and camera operators

**Physical sciences technicians and technologists** .......... 131
2117 Physical sciences technologists and technicians
2119 Occs in physical sciences, n.e.c.

**Physicians and surgeons** .......... 163
3111 Physicians and surgeons

**Physicists** .......... 191
2113 Physicists

**Physiotherapists and occupational and speech therapists** .......... 164
3136 Audio and speech therapists
3137 Physiotherapists, occupational and other therapists
3138 Occupational therapists

**Pipefitters, plumbers, and sprinklerfitters** .......... 77
8791 Pipefitting, plumbing and related occs

**Police occupations** .......... 132
6112 Police officers and detectives, government
6113 Police agents and investigators, private
6119 Other protective service occs, n.e.c.

**Precision instrument mechanics and repairers** .......... 78
8588 Precision instrument mechanics and repairers

**Printing and engraving occupations** .......... 133
9510 Foremen/women, printing and related occs
9511 Typesetting and composing occs
9514 Printing/engraving, except photoengraving occs
9515 Photoengraving and related occs

**Product and interior designers** .......... 112
3313 Product and interior designers

**Production managers** .......... 145
1143 Production management occs

**Professional sales supervisors** .......... 105
5130 Supervisors: sales occs, commodities
5170 Supervisors: sales occs, services
5190 Supervisors, other sales occs

**Professional sales workers** .......... 106
5131 Technical sales occs and related advisers
5133 Commercial travellers
5149 Sales occs, commodities, n.e.c.
5171 Insurance sales occs and agents
5172 Real estate sales occs
5173 Sales agent and traders, securities

5174 Advertising sales occs
5177 Business services sales occs
5179 Sales occs: services, n.e.c.
5199 Other sales occs, n.e.c.

**Psychologists** ........ **192**
2315 Psychologists

**Pulp and paper supervisors and inspectors** ........ **79**
8250 Foremen/women, pulp and papermaking and related occs
8256 Inspecting, testing, grading and sampling occs: pulp and papermaking

**Purchasing officers and managers** ........ **146**
1141 Purchasing management occs
1175 Purchasing officers and buyers, except wholesale and retail trade
5191 Buyers, wholesale and retail trade

**Radiographical technologists** ........ **165**
3155 Radiological technologists and technicians

**Registered nurses** ........ **166**
3130 Supervisors: nursing occs
3131 Nurses, graduate, except supervisors

**Rotary well-drillers (petroleum)** ........ **32**
7711 Rotary well-drilling and related occs

**Rubber and plastic products supervisors and inspectors** ........ **80**
8570 Foremen/women: fabricating, assembling, repairing occs, rubber, plastic, related products
8576 Inspection, testing, grading and sampling occs: fabricating, assembling, repair, rubber, plastic

**Sales and advertising managers** ........ **147**
1137 Sales and advertising management occs

**Sales clerks** ........ **10**
4133 Tellers and cashiers
5135 Sales workers, commodities, n.e.c.

**Semi-skilled machine-related occupations, indoor** ........ **46**
7719 Mining and quarrying including oil and gas field occs, n.e.c.
8113 Mixing, separating, filtering and related occs, mineral ores
8115 Melting and roasting occs, mineral ores
8119 Mineral ore treating occs, n.e.c.
8131 Metal smelting, converting and refining furnace occs
8133 Metal heat-treating occs
8135 Metal rolling occs
8151 Furnace and kiln workers: clay, glass and stone
8155 Forming occs: clay, glass and stone
8161 Mixing and blending occs, chemicals and related materials
8165 Distilling, subliming and carbonizing occs, chemicals and related materials
8167 Roasting, cooking and drying occs, chemicals and related materials
8179 Chemicals, petroleum, rubber, plastic, related materials processing occs, n.e.c.
8227 Beverage processing occs
8251 Cellulose pulp preparing occs
8253 Papermaking and finishing occs

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8273 Textile bleaching and dyeing occs
8299 Other processing occs, n.e.c.
8315 Machine-tool operating occs
8319 Metal machining occs, n.e.c.
8331 Forging occs
8351 Wood patternmaking occs
8371 Cutting and shaping occs: clay, glass, stone and related material
8373 Abrading and polishing occs: clay, glass, stone and related materials
8379 Clay, glass, stone and related materials machining occs, n.e.c.
8391 Engravers, etchers, and related occs
8395 Patternmakers and mouldmakers, n.e.c.
8399 Other machining and related occs, n.e.c.
8511 Engine and related equipment fabricating and assembling occs, n.e.c.
8523 Industrial, farm, construction, mechanized equipment, machining fabricating assembling occs, n.e.c.
8525 Business, commercial machines fabricating and assembling occs, n.e.c.
8527 Precision instruments, fabricating and assembling occs, n.e.c.
8591 Jewellery and silverware fabricating, assembling and repairing occs
9119 Air transport operating occs, n.e.c.
9135 Railway transport operating support occs
9512 Printing press occs
9513 Stereotyping and electrotyping occs
9517 Bookbinding and related occs
9519 Printing and related occs, n.e.c.

**Sheet metal supervisors and inspectors** .......................................... **81**
8330 Foremen/women, metal shaping and forming occs, except machining
8336 Inspecting, testing occs, metal shaping and forming, except machining

**Sheet metal workers** .......................................... **82**
8333 Sheet-metal workers

**Social workers and counsellors** .......................................... **193**
2331 Social workers
2339 Occs in social work and related fields, n.e.c.
2391 Educational and vocational counsellors
2399 Other occs in social sciences and related fields, n.e.c.

**Sociologists and anthropologists** .......................................... **194**
2313 Sociologists, anthropologists and related social scientists

**Sports-related occupations** .......................................... **101**
3360 Supervisors, occs in sports and recreation
3370 Coaches, sport and recreation
3371 Referees and related officials
3373 Athletes
3379 Occs in sport and recreation, n.e.c.

**Stationary engineering supervisors and inspectors** .......................................... **83**
9530 Foremen/women, stationary engine and utilities equipment operating

**Stationary engineers** .......................................... **84**
9531 Power station operators
9539 Stationary engine and utilities equipment operating occs, n.e.c.

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**Structural metal erectors** .................... 85
8793 Structural-metal erectors

**Surveyors** .................... 134
2161 Surveyors
2169 Other occs in architecture and engineering, n.e.c.•

**Tailors and dressmakers** .................... 86
8553 Tailors and dressmakers

**Teachers, non-university** .................... 195
2731 Elementary and kindergarten teachers
2733 Secondary school teachers
2739 Elementary and secondary school teaching and related occs, n.e.c.
2791 Community college and vocational school teachers
2792 Fine arts teachers
2793 Post-secondary school teachers, n.e.c.
2795 Teachers of exceptional students, n.e.c.
2797 Instructors and training officers, n.e.c.
2799 Other teaching and related occs, n.e.c.

**Teachers, university** .................... 196
2711 University teachers
2719 University teaching and related occs, n.e.c.

**Textile processing supervisors and inspectors** .................... 87
8260 Foreman/women, textile processing occs
8276 Inspecting, testing, grading and sampling occs, textile processing

**Tool and die makers** .................... 88
8311 Tool-and-die making occs

**Translators and interpreters** .................... 197
3355 Translators and interpreters

**Veterinarians** .................... 198
3115 Veterinarians

**Waiters/waitresses and bartenders** .................... 11
6123 Bartenders
6125 Food and beverage serving occs

**Wall and ceiling installers** .................... 89
8784 Plasterers and related occs

**Watch and clock repairers** .................... 90
8587 Watch and clock repairers

**Welders** .................... 91
8335 Welding and flame cutting occs

**Wood products and processing supervisors and inspectors** .................... 92
8230 Foremen/women: wood processing occs, except paper pulp
8236 Inspecting, testing and grading occs: wood processing except paper pulp
8350 Foremen/women, wood processing occs
8356 Inspecting occs, wood machining
8540 Foremen/women: fabricating, assembling and repairing occs, wood products
8546 Inspecting, grading occs: fabricating, assembling and repairing, wood products

# Appendix B: Data Sources and Notes

**Occupational Group Title**
In order to cover as broad a range of occupations as possible, over 400 specific occupations, as defined by the *Standard Occupational Classification* (SOC) at the four-digit level, were clustered into approximately 160 occupational groups. This clustering of occupations involved the combination of specific four-digit SOC occupations into occupational groups on the basis of skill, education and training requirements. Each occupational group is assigned a unique title. For occupational groups containing only one specific four-digit SOC occupation, the original SOC title is generally used. For occupational groups containing more than one four-digit SOC occupation, a title was devised to reflect the types of occupations contained in the group. A complete listing of the specific four-digit SOC occupations in each group is presented in Appendix A.

**Typical Occupations**
As mentioned, some occupations are grouped together and appropriate occupational titles are given. Therefore, in those groups which contain a number of different occupations, a listing of the typical occupations are provided under the occupational title. This does not include those occupations which are described in the title.

**Nature of the Work**
This section details the basic types of work performed by individuals in a particular occupational group. Information was derived from the *Standard Occupational Classification*, individuals and organizations associated with the occupation and various other counselling publications. A full listing of sources used in *Career Options* is contained in the bibliography.

**Requirements**
The education and/or level of training required to obtain employment within a particular occupational group is indicated in this section. Requirements were determined in consultation with individuals and organizations associated with specific occupations.

**Training Paths**
Under this heading, the normal methods for obtaining the skills to work in the given occupations are summarized. Where appropriate, the institutions which provide the education and/or training are outlined. Information on training paths was obtained from community college and university calenders, various inventories of university courses, and *Directions: An Inventory of Education and Training Offered in Nova Scotia*. Information pertaining to requirements for on-the-job training or work experience was obtained from a variety of sources including professional associations, industry associations and employers.

**Job Prospects**
The main industries in which workers in this occupational group are employed are included under this heading. Also included are seasonal or economic factors which may affect the working conditions in this occupational group. Information on earnings may be included where applicable.

**Nova Scotia Labour Market Conditions**
Occupational forecasts presented in *Career Options* are based on a revised version of the Provincial Scenario of the Canadian Occupational Projection System (COPS) which was developed in 1991. COPS is a computerized occupational forecasting system developed and maintained by Employment and Immigration Canada (EIC).

The Provincial Scenario, a forecast of employment for 67 major industries, was developed jointly by the Nova Scotia Regional Office of Employment and Immigration Canada (Economic Services), the Nova Scotia Department of Economic Development, the Nova Scotia Department of Finance and the Nova Scotia Department of Advanced Education and Job Training. These 67 industry forecasts are broken down into specific forecasts for 497 four-digit SOC occupations through an industry/occupation matrix derived from 1986 Census data.

For the purposes of the 1992 edition of *Career Options*, 1990 is used as the base year for employment projections and unemployment estimates in order to more closely approximate long-term average conditions in the Nova Scotia labour market. The use of 1991, a year of recession, as the starting point for longer term projections would place undue emphasis on those occupations which are most severely affected by recession and which are therefore more likely to grow rapidly coming out of the recession.

**Estimated employment in 1990**
This indicates the estimated 1990 employment level in the specific occupational group as determined through revised COPS estimates. The estimate includes all individuals employed in the group (i.e., full-time and part-time workers, new entrants and fully experienced individuals).

**Employment growth from 1990 to 1996**
The growth rate in a particular occupational group relative to the overall projected employment growth for Nova Scotia is indicated. **Above Average** employment growth indicates that the employment growth rate for the particular occupational group is more than twice the average for all occupations in Nova Scotia. **Below Average** employment growth indicates that the employment growth rate for the particular occupation is less than one half the average for all occupations in the Province.

# Appendix B

**Average number of new job openings**
This average refers to the average annual number of job openings likely to occur in a particular occupational group between 1990 and 1996. Job openings arise primarily due to two factors, new employment growth and attrition. New employment growth occurs when new firms start up or existing firms increase employment levels. Attrition may result from a number of factors. Attrition occurs when individuals currently employed in a particular occupation either change occupation, temporarily withdraw from the labour force (e.g., to return to school), retire, or move to another province or country. In most occupations, attrition accounts for the majority of new job openings. Attrition rates used in *Career Options* range from 2.5% to about 20%. Occupations with a high attrition rate tend to be associated with low skill levels and educational requirements. Occupations with a low attrition rate tend to be associated with a high level of training.

**Unemployment Information**
The unemployment information presented in *Career Options* indicates the unemployment rate for a particular occupational group relative to the overall unemployment rate for all occupations in Nova Scotia. Unemployment rates are calculated on the basis of the number of Unemployment Insurance beneficiaries in an occupation as of September 1990. It should be noted that these rates are not comparable to Labour Force Survey (LFS) estimates of unemployment.

The unemployment rate for a particular occupational group may be listed as either significantly below average, below average, average, above average, or significantly above average. These ranges are defined as follows:

**Significantly Below Average**: the unemployment rate is more than 50% lower than the average for all occupations in Nova Scotia.

**Below Average**: the unemployment rate is 26% to 50% lower than the average for all occupations in Nova Scotia.

**Average**: the unemployment rate falls within the average unemployment rate for all occupations in Nova Scotia plus or minus 25%.

**Above Average**: the unemployment rate is 26% to 100% higher than the average for all occupations in Nova Scotia.

**Significantly Above Average**: the unemployment rate is more than twice as high as the average for all occupations in Nova Scotia.

**Estimated annual earnings in 1991**
The estimated average annual earnings of full-time, full-year workers in the occupational group as of 1991 is indicated. It should be noted that this figure is the average for all people in the given occupational group. Starting wages are generally significantly below this figure. Earnings in 1991 are calculated on the basis of 1985 earnings adjusted for estimated income increases over the period. Nova Scotia earnings data for 1985 were obtained from the 1986 Census of Canada.

# Appendix C: Addresses of Educational Institutions

**Nova Scotia Community College Campuses**

Adult Vocational Training Campus —
Cape Breton
Nova Scotia Community College
P.O. Box 1042
Glace Bay Highway
Sydney, Nova Scotia
B1P 6J7
Attn. Mr. Pat Robinson
563-2450

Adult Vocational Training Campus —
Metro
Nova Scotia Community College
10 Acadia Street
Dartmouth, Nova Scotia
B2Y 4H3
Attn. Mr. Scott Moore
424-8640

Annapolis Campus
Nova Scotia Community College
P.O. Box 940
295 Commercial Street
Middleton, Nova Scotia
B0S 1P0
Attn. Mr. James R. Norton
825-3491

Burridge Campus
Nova Scotia Community College
372 Pleasant Street
Yarmouth, Nova Scotia
B5A 2L2
Attn. Mr. Gerald Avis
742-3501

Cobetec
60 Lorne Street
Truro, Nova Scotia
B2N 3K3
Attn. Mr. Bob J. MacDonald
895-7995

College of Geographic Sciences
Nova Scotia Community College
R.R. #1, Lawrencetown
Annapolis County, Nova Scotia
B0S 1M0
Attn. Mr. Charles J. Williams (V.P.)
584-2226

Cumberland Campus
Nova Scotia Community College
P.O. Box 550
1 Main Street
Springhill, Nova Scotia
B0M 1X0
Attn. Ms. Margaret Norton (V.P.)
597-3737

Halifax Campus
Nova Scotia Community College
1825 Bell Road
Halifax, Nova Scotia
B3H 2Z4
Attn. Mr. John MacNeil
424-7999

Hants Campus
Nova Scotia Community College
P.O. Box 2079
Windsor, Nova Scotia
B0N 2T0
Attn. Mr. Patrick Sherlock
798-8348

Institute of Technology Campus
Nova Scotia Community College
5685 Leeds Street
P.O. Box 2210
Halifax, Nova Scotia
B3J 3C4
Attn. Mr. Brian Redmond, Acting Registrar
424-4533

I.W. Akerley Campus
Nova Scotia Community College
21 Woodlawn Road
Dartmouth, Nova Scotia
B2W 2R7
Attn. Mr. Frank Pottie
434-2020

Kingstec
Nova Scotia Community College
P.O. Box 487
Kentville, Nova Scotia
B4N 3X3
Attn. Mr. Graham MacDermott
678-7341

Lunenburg Campus
Nova Scotia Community College
75 High Street
Bridgewater, Nova Scotia
B4V 1V8
Attn. Dr. Gary Ramey
543-4608

Memorial High School
P.O. Box 300
Sydney Mines, Nova Scotia
B1V 2Y5
Attn. Mr. Alex Gilchrist
736-6233

Nautical Institute
Nova Scotia Community College
P.O. Box 1225
Port Hawkesbury, Nova Scotia
B0E 2V0
Attn. Capt. Peter Dunford (V.P.)
625-2380

Pictou Campus
Nova Scotia Community College
P.O. Box 820
Stellarton, Nova Scotia
B0K 1S0
Attn. Mrs. Carol Forbes
752-2002

Shelburne Campus
Nova Scotia Community College
P.O. Box 760
Shelburne, Nova Scotia
B0T 1W0
Attn. Mr. John MacLellan
875-3091

# Appendix C

Strait Campus
Nova Scotia Community College
400 Reeves Street
P.O. Box 2000
Port Hawkesbury, Nova Scotia
B0E 2V0
Attn. Mr. Ronald MacNeil
625-2200

Sydney Campus
Nova Scotia Community College
365 Prince Street
Sydney, Nova Scotia
B1P 5L2
Attn. Mr. Gurdev S. Jolly
563-2088

## Other Nova Scotia Education and Training Institutions

Acadia University
Admissions Office
Wolfville, Nova Scotia
B0P 1X0
542-2201, ext. 536

Atlantic School of Theology
640 Franklyn Street
Halifax, Nova Scotia
B3H 3B5
Attn. Carole Blackmore
423-5592

CompuCollege School of Business
P.O. Box 3608 South
Halifax, Nova Scotia
B3J 3K6
423-3933

Dalhousie University
Registrar's Office
Halifax, Nova Scotia
B3H 4H6
494-2450

Mount Saint Vincent University
Admissions Office
166 Bedford Highway
Halifax, Nova Scotia
B3M 2J6
443-4450, ext.128

Nova Scotia Agricultural College
Registrar's Office
P.O. Box 550
Truro, Nova Scotia
B2N 5E3
893-6600

Nova Scotia College of Art and Design
Admissions Office
5163 Duke Street
Halifax, Nova Scotia
B3J 3J6
422-7381, ext.129

Nova Scotia Teachers College
Registrar's Office
P.O. Box 810
Truro, Nova Scotia
B2N 5G5
895-5347, ext. 263

St. Francis Xavier University
Registrar's Office
Antigonish, Nova Scotia
B2G 1C0
867-2160

Saint Mary's University
Registrar's Office
Halifax, Nova Scotia
B3H 3C3
420-5581

Technical University of Nova Scotia
Registrar's Office
P.O. Box 1000
Halifax, Nova Scotia
B3J 2X4
420-7507

University College of Cape Breton
Faculty of Trades and Technology
P.O. Box 5300
Sydney, Nova Scotia
B1P 6L2
Attn. Ms. Pamela Decker
539-5300

Université Sainte-Anne
Church Point
Digby County, Nova Scotia
B0W 1M0
769-2114

University of King's College
Registrar's Office
6350 Coburg Road
Halifax, Nova Scotia
B3H 2A1
422-1271

**Post-Secondary Institutions Outside Nova Scotia**

Holland College
Admissions Office
140 Weymouth Street
Charlottetown, Prince Edward Island
C1A 4Z1
566-9600

Maritime Forest Ranger School
R.R. #10
Fredericton, New Brunswick
E3B 6H6
Attn. Mr. H.J. Torunski
506-458-0199

University of New Brunswick
P.O. Box 4400
Fredericton, New Brunswick
E3B 5A3
506-453-4666

Other government departments and private trade schools should be consulted for programs and courses which are privately run, offered at the federal level, or departmentally run within the Provincial Government of Nova Scotia.

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